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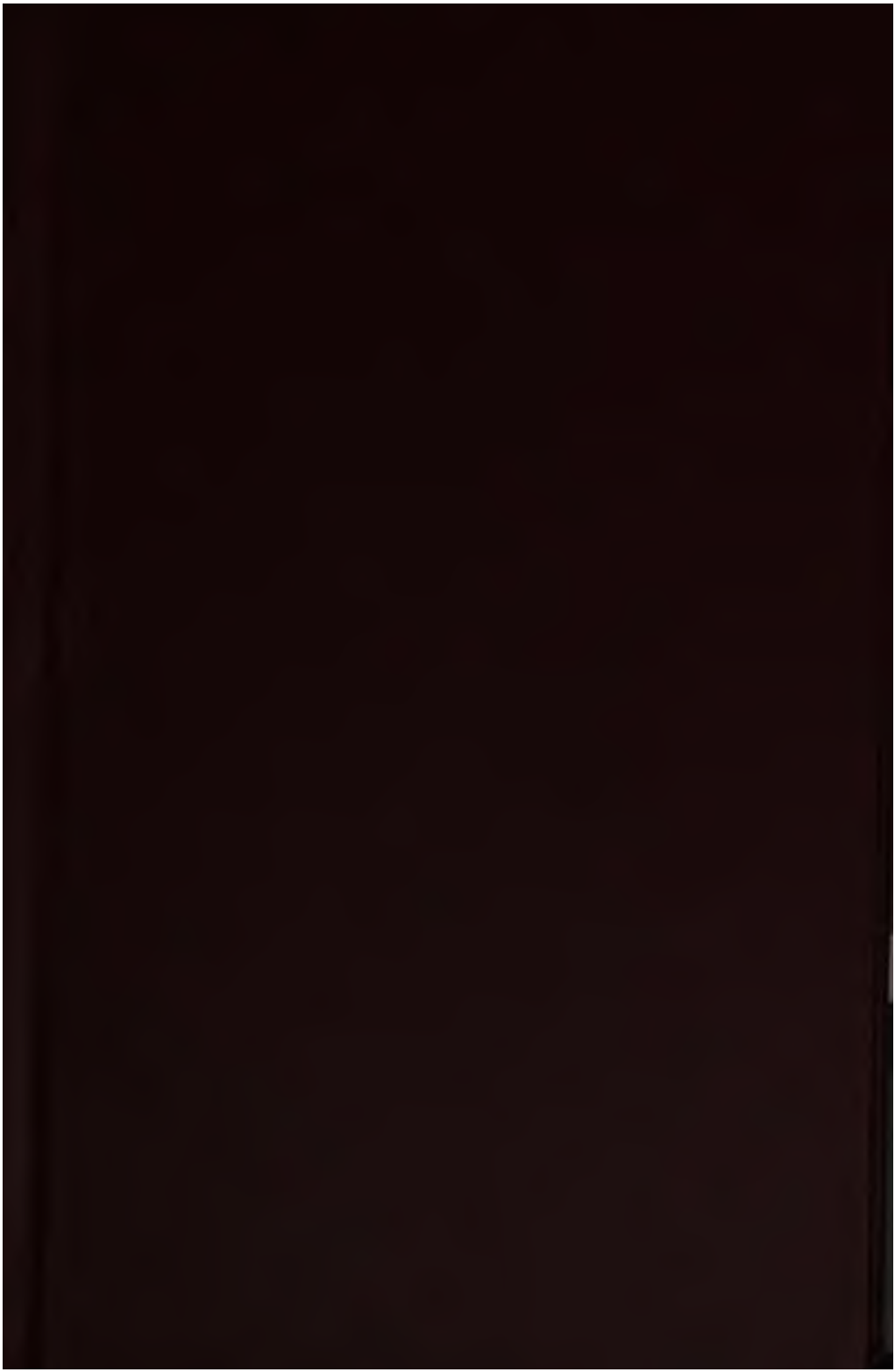

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THE

FARMER'S MAGAZINE:

A

PERIODICAL WORK,

EXCLUSIVELY DEVOTED TO

AGRICULTURE

AND

RURAL AFFAIRS:

1809.

Ye gen'rous Britons, venerate the PLOUGH,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the Sun. THOMSON.

VOL. X.

EDINBURGH:
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LONDON.

1809.

THE

FARMER'S MAGAZINE:

MARCH 1809.

(No. XXXVII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A Law, for regulating the Trade in Clovers and other small Seeds, recommended.

SIR,

THE Legislature, at different times, have passed various laws for regulating the flax-seed trade, which, *inter alia*, direct, that such certificates shall be delivered by the seller of that seed to the purchaser, as may instruct the place of its growth, and the season in which it was produced, so as the latter might be guaranteed from loss or damage, in case the seed should prove unsound, or of a different quality than described in the certificate delivered. These regulations have proved of great utility, tending much to protect the grower of flax, and, of course, to promote the prosperity of the flax trade. I have often thought that it would be of public advantage, were similar regulations established with regard to clover and other small seeds, such as Rye grass, Sainfoin, Ruta baga, and Turnip; because it is well known that numerous abuses are practised by the dealers in these articles, and that heavy losses have repeatedly been sustained by purchasers in consequence of unsound, or, what is worse, of bastard or degenerated seed being furnished, instead of what was healthy and pure. For these reasons, and, in particular, because the most acute judge is unable to distinguish the difference betwixt some

of the varieties of small seeds, it would, in my humble opinion, be highly beneficial to cultivators, were the following account of a cause, lately determined by the Second Division of the Court of Session, inserted in your earliest Number; as it shows, in the clearest manner, the propriety of making the legislative regulations which I have recommended. I am, Sir, yours, &c.

A FRIEND TO IMPROVEMENTS.

Account of a Cause respecting Ruta Baga Seed, lately decided in the Second Division of the Court of Session.

IN the month of April 1804, Messrs Dickson & Co., seedsmen in Edinburgh, purchased 2 cwt. of Swedish turnip seed from James Kincaid, then farmer at Inches near Falkirk, which, upon trial, they alleged turned out not to be genuine; and, having sold part of it to different persons, as real Swedish turnip seed, their character, in consequence, suffered material injury. With the view of obtaining redress for this, they instituted an action of damages before the Court of Session, against Mr Kincaid, on the 13th December 1804, about eight months after the sale of the seed. In the libel it was stated, that in April last (1804), the pursuers concluded a bargain with James Kincaid, farmer at Inches near Falkirk, for two hundred weight of turnip seed, which he affirmed was true Swedish turnip, raised by himself, and for the qualities and growth of which he would be answerable. That the pursuers, relying on these assurances, paid a full price for the seed above mentioned; sold the same in retail to several of their customers; but, on trial, it was discovered not to be Swedish turnip, but rape seed, or some other kind of seed totally different from that which the said James Kincaid had professed to sell to the pursuers, as above mentioned. That not only have the pursuers had various complaints from some of their most respectable customers, and actions of damages threatened to be brought against them on account of failures in the crop of turnip from the above cause, which is solely imputable to the said James Kincaid, but have also sustained a grievous injury in their character and reputation as upright and honourable dealers, which is infinitely more important to them than any pecuniary reparation that can be made; but for which, nevertheless, according to every principle of justice, an adequate reparation is due. The libel concluded for 'payment of the sum of 1000*l.* Sterling, or such other sum, less or more, as our *said Lords* shall be pleased to modify in name

name of damages, on the above mentioned account; with interest thereof from the date of citation to follow hereon, till payment; and also for expenses of process.'.

On the 13th December 1805, eleven months after the process against Mr Kincaid, an action of damages was raised against Messrs Dicksons, at the instance of Mr Lewis Cauvin, for the loss of a crop of Swedish turnips from a field at Duddingston, which he had sown with seed purchased from these gentlemen. Mr Kincaid was not made a party to this action; and, after a good deal of litigation before Lord Glenlee, it appears that his Lordship decerned against Messrs Dicksons for 12*l*. 13s. 1d. of damages, and 39*l*. 10s. of expenses; making, in all, 52*l*. 3s. 1d. Sterling.

In the mean time, the original action of damages at Messrs Dicksons' instance against Mr Kincaid, proceeded before Lord Justice-Clerk, who remitted the cause to Dr Coventry, Professor of Agriculture, and Dr Rutherford, Professor of Botany in the University of Edinburgh; and these gentlemen reported, that upon 20th March 1805, they inspected a field of plants belonging to Benjamin Bell Esq. at Newington, and also another field of the same belonging to Mr Lewis Cauvin at Restalrig, by direction of the parties; and, after examining particularly the plants in these two fields, are of opinion, that they are not of the species called rap, but are a variety of the Swedish turnip, altered, however, a good deal from the ordinary character of this last species.

They further reported to the Lord Ordinary, that the Swedish turnip, as well as some other species belonging to the same natural family or tribe of plants, is peculiarly liable to vary in its habit and general appearance, owing, most probably, as numerous observations tend to show, to sundry causes; such as the floral influence or impregnation of other plants growing in their neighbourhood, giving rise to what are called by naturalists hybrids or mixed species; the nature of the soil, its degree of fertility, condition as to moisture, state of texture, &c.; the period when the seed of the crop is sown, and other circumstances: and though there may subsist, in the present instance, some uncertainty as to the particular cause or causes of the altered appearance of the plants growing in the fields above mentioned, yet it is highly probable that they have been raised from seed produced from some variety of Swedish turnips, and differ from the ordinary sorts of this species only in the way already suggested.

On this report having been given in, his Lordship allowed a proof to both parties, on the import of which he afterwards appointed memorials to be lodged; and, on considering these, he pronounced the following interlocutor, of the 20th May last:

'Having considered this memorial, that for the pursuer, and whole process, finds, That the defender sold two hundred weight of seed to the pursuers as good Swedish turnip seed: Finds it proved, that said seed, when delivered, was immediately labelled or ticketed with the defender's name, as seed purchased from him, so as to prevent any doubt as to the identity of the seed: Finds it proved, That the produce of some of said seed, inspected by Drs Rutherford and Coventry, turned out not to be Swedish turnip, or, at least, to be only a bastard or degenerate kind of it: Finds, That, both under the implied warrandice in the contract of sale, that the thing sold shall be of the kind described, and also under the express warrandice of the defender, that this was good Swedish turnip seed, the defender is liable to make good to the pursuers the damage occasioned by the defect in the seed: Finds, That it is of no consequence, in a civil action of damages, whether the said defect arose from accidental impregnation by plants of the same genus growing in the neighbourhood, or from any other cause, although the probability of such accident removes the suspicion of fraud upon the part of the defender. Therefore, finds the defender liable in damages; modifies the same to the sum of 59*l.* 10s. and the dues of the extract found due by the pursuers to Mr Cauvin, as damages and expenses; and to the further sum of 30*l.* Sterling, as a *solatium* for the loss of character which they risked among their customers; also in the expenses of this process, and decerns; reserving to the pursuers their relief against the defender for any further damages to which they may be subjected to their customers who bought any of said seed.'

A minute was afterwards given in by Messrs Dicksons, claiming the expense incurred by them in defending the action at Mr Cauvin's instance; and the Lord Ordinary found Mr Kincaid liable in 10*l.* Sterling on that account, with the full expense of extracting the decreet.

Against these interlocutors a petition was presented to the Court (Second Division), in which Mr Kincaid stated, That while tenant, in 1802, of the small farm of Inches, which consisted of about 20 acres, he purchased a pound of Swedish turnip seed at 2s. 8d., from Mr James Walker, merchant, Falkirk. At that time he had a number of bee-hives in his garden; and as he had been informed that the flower of the Swedish turnip afforded a great deal of food for bees, he sowed this seed upon half an acre of the garden, and the produce was in every respect beyond his expectation. The crop was much admired by all the neighbourhood; and gardeners, who came to see it, declared that it appeared the finest Swedish turnip they had ever seen. During the

the succeeding season, the remaining turnips were allowed to flower, chiefly for the sake of the bees; and the crop was so good, that it was suggested to the defender by some of his neighbours, that he ought to preserve the seed. He accordingly did so, and sold a part of it to Mr Walker, from whom he originally had the seed, who sold it again to other persons, who never complained of the quality of the turnips. The defender likewise carried a sample of the seed to Edinburgh, and offered it for sale to the pursuers, to whom he described the seed as it had appeared to himself and others. Messrs Dicksons invited the defender to breakfast with them, when he informed them of all the particulars regarding the growing of the turnips; that he had allowed them to flower chiefly for the sake of his bees; but that the plants had been afterwards so much admired by the neighbourhood, that he had been advised to preserve the seed, which he had accordingly done, according to the sample produced. Messrs Dicksons concluded a bargain with the defender at the rate of 10d. per pound. Their witnesses said that they afterwards kept the seed in a bag, with a label upon it, specifying whence it came, and that it was thence emptied into a drawer in their shop, and sold to the differest customers at a profit of about 80 *per cent.* They did not, however, take the precaution of sowing a part of this seed, to ascertain its quality, before disposing of it to their customers; but at the same time that they sowed a part, they began selling the rest.

In arguing upon this statement of the case, the defender contended, that the pursuers had not clearly established the identity of the seed. The result of the evidence was, that the seed was in their own custody. It certainly did not prove its own identity; for every person agreed in saying that it was very good turnip seed, and Messrs Dicksons might have done with the bag or drawer in which it was kept what they chose. The question came therefore to be, Could a purchaser subject a vender for damages, where it appeared that the identity of the commodity depended entirely on himself? It might be highly improbable that, either from accident or design, the seed should be changed or mixed. The defender, however, did not go upon probabilities; he did not say that it was probable the pursuers did so and so, but that it was entirely in their power to do so; that there was no evidence which excluded this entire power; and that even a mischievous person might have exercised it for the sake of a frolic, when the shopmen were not in the way. The pursuers' case, therefore, was not good, unless they could prove the identity of the article by its appearance, or show that it was out of their power to substitute other seed in place of it, by its either being

locked up in the custody of other persons, or sealed up and opened in the presence of witnesses. The pursuers had not done any thing of this nature. On the contrary, it appeared that the seed was sold in open drawers, near other seed of such a nature and appearance as might easily be mistaken for it; and deposited in bags which any person might have untied who had access to the shop or warehouse.

With regard to the conduct of the pursuers themselves in this transaction, the defender stated, that they were by profession seedsmen and botanists, very eminent in their line, and much trusted by the public. They knew that Swedish turnip, or roota baga, was a plant extremely liable to be degraded in quality by the impregnation of the *pollen*, or fructifying powder from other plants growing in its neighbourhood, and which might be distributed by the bees or the wind. They acted, therefore, with great rashness, in purchasing from an ignorant, inexperienced man like the defender, a quantity of this sort of seed, and in selling it for the purpose of being sown, without having seen the situation in which it was reared. They ought evidently to have only sold it for bird seed, or to have made trial of it by sowing a small portion in their nursery, or in a hot-bed. But it appeared in proof, that they had improvidently suffered their stock of this sort of seed to run out. This circumstance induced them to purchase from the defender, instead of commissioning seed from Gottenburgh or Stockholm, or even from the London seedsmen, who are accustomed to procure supplies from these parts. A profit of 80 *per cent.* tempted the pursuers to sell the seed indiscriminately to their customers, without giving any caution respecting the quarter from which it had been bought, or intimating that any hazard might result from using it as seed. In the mean while, it was believed, that no one of the more intelligent customers of Messrs Dicksons would have bought from them the seed in question, if they had suspected that, instead of being foreign growth, or of a quality tried and known by the pursuers, it was bought from a little tenant in Stirlingshire, who had raised it in his kitchen garden, where Messrs Dicksons had not seen it when growing. This, continued the defender, was an action of damages raised by the pursuers, to obtain a *solatium* for an injury done by him to their character and reputation. In every action of that nature, the pursuer must come into court with clean hands. He must be able to say, that, when doing his duty in the most correct manner, an injury was unjustly offered to him. But who did not see, that, in the present case, if a fault occurred, it lay wholly on the side of the pursuers? The defender acted in a fair and in a natural manner: he bought Swedish turnip seed from a dealer, who had received it from an eminent mercantile

cantile houſe in London: it produced on his lands an excellent crop, and he ſold the ſeed which it produced to the purſuers, men of reputed eminence as dealers in that commodity. From his ſtation in life, and the occupation in which he was engaged as an ordinary farmer, there exiſted no reaſon for relying upon his ſkill in a commodity of that ſort; and much leſs was it pretended, that any inquiry had been ſet on foot for aſcertaining how far the crop of turnip ſeed had not been expoſed to deterioration from the vicinity of other plants. On the contrary, the purſuers were contented to purchaſe, without inveſtigation, from a little farmer, the turnip ſeed which had grown in his kitchen garden. A profit of 80 *per cent.* removed all difficulties, and induced them to ſell it to the public at large, without giving notice that it was not foreign ſeed, or that it had grown in a moſt perilous ſituation. Their ſkill as botaniſts was entirely laid aſide, and they made no trial of the ſeed before they expoſed their cuſtomers to the loſs of a crop, from ſowing ſeed reared in the manner that has been deſcribed. In ſuch circumſtances, the defender contended, that it was very clear the purſuers could never vindicate their character as traders by an action of damages. If they ſuffered in their reputation, it was only from their own negligence, or want of that vigilance, which, upon ſuch a ſubject, it was their duty to exert as profeſſional men. In raiſing the action, they came into a court of law pleading their own turpitude. They had the advantage of ſuperior knowledge in forming their bargain, and could not be permitted to complain of the ignorance of the party with whom they had tranſacted.

As to the conduct of the defender himſelf, it was maintained, that he was entirely free from blame. The queſtion to be conſidered truly was, Whether the defender, after the plants had grown, after they appeared to have come to full maturity, and the ſeed perfectly formed, acted raſhly or improperly in carrying a ſample of that ſeed, not to a perſon as ignorant as himſelf, but to a merchant whoſe express buſineſs it was to deal in that article? Could he poſſibly ſurmiſe that the ſeeds would not produce good plants?—Here the extent of the defender's knowledge was not to be meaſured by that of the Court, nor by that of thoſe who had had a liberal education. Could any perſon in his ſituation of life ſuppoſe, that from other plants growing in the neighbourhood, or that from bees carrying the infinitely minute duſt of other plants, the produce would be affected? Neither could he know, that this ſpecies of turnip was only a particular variety of a larger tribe of plants, whoſe habitudes might be changed by a variety of circumſtances. The cultivation of Swediſh turnip had only become known within theſe few years.

It appeared from the evidence, that seven years had hardly elapsed since it was introduced into field culture. It was probable that its nature now was very imperfectly known. That the produce of its seed, however, differed in a most astonishing manner from the original plant, was a fact that could not be doubted. The only theory which gave any plausible account of it was the Linnean system of botany, which classed plants, not according to those circumstances which would strike a common observer, as showing their similarity, but according to the peculiarities of those parts of their flowers, which were most minute and apparently insignificant. That system, which alone of those now recognised in science, could account in any measure for what was supposed to have happened in this case, and what was known to have happened in many others, was matter of controversy among the learned not many years ago; and the peculiarity of its terms, which were all unintelligible to uneducated persons, was calculated to prevent its diffusion. If there was any class of men less likely than another to acquire a knowledge of new systems, it was a small farmer, who belonged to a class of men that seldom changed their residence, and who were much less enlightened by intercourse with others, than those of the same condition, who resided in large towns. There was not, therefore, a circumstance which made the conjecture possible, that the most sceptical person in the defender's situation would have any doubt about this seed, or suspect that the produce might be different. That the lusty male cabbage in his garden, or the turnips in a neighbouring field, should have any intercourse with the Swedish turnip, or change the species, would appear a far more incredible event, than that they should be bewitched or viewed with an evil eye. The illicit connexion between these two plants seemed as improbable as that horses could be generated by the west wind; and it would be as easy to persuade any person of the truth of this, which seems to have been matter of belief in Virgil's time, as to make them believe that plants at some distance could alter the nature of others, by merely happening to be in flower at the same time. Could any sort of blame, therefore, be imputed to the defender, for not suspecting this? It was true he did not raise these turnips with a view to seed: but after they had grown and produced the seed, and the seed appeared perfectly formed, could he suspect that he exposed himself or others to any danger, by selling it to a person who dealt in that article? If the Linnean system was excluded, his case was perfectly good, becauſe it was proved that the original plants were Swediſh turnips. It might be argued, that the defender ought not to have dealt in this ſeed, without being fully aware of the

the nature of it. It was eaſy to ſay ſo after an accident had happened; but there was no ground which could lead the defender, or any other perſon in his condition, to think ſo at the time; and if ignorant perſons did not pretend to more knowledge than they really poſſeſſed, no blame could attach to them for diſpoſing of any article which might belong to them. If, inſtead of the Swediſh turnip ſeed, the defender had found in his garden a piece of ore of yellow colour, and his neighbour had told him that it was gold, could any blame attach to him for carrying it to a goldſmith, and diſpoſing of it to him at the beſt price he could get? Had the goldſmith, inſtead of making an aſſay of it, as he might have done immediately, mixed it with other precious metals in a ſervice of plate, at a profit of 80 *per cent.*, would he, ſuppoſing it to be an ore of ſulphur or iron, or ſome baſe metal, be entitled to bring an action of damages againſt the country man, for having ſold it to him for gold? The country man, like the defender in this caſe, did what the moſt circumſpect perſon in his ſituation would have done. The goldſmith, on the other hand, like the purſuers, neglected the proper precautions of his trade, in not making a proper aſſay before he mixed it up with other valuable metals; and therefore, if the purſuers ſuffered an injury in conſequence, they had only themſelves to blame for it.

The defender likewiſe contended, that he ought to be aſſoilzied from the concluſion in the ſummons for the damages and expenſes found due by Meſſrs Dickſons to Mr Cauvin; becauſe, 1*st*, That action was not inſtituted againſt them until eleven months after they brought their action againſt the defender; and the expenſes incurred therein might have been ſaved, had Meſſrs Dickſons not ſtaved off a deciſion by maintaining evaſive anſwers: 2*dly*, The defender was not made a party to that action, which, if he had been, Mr Cauvin, he averred, would not have demanded or taken a ſingle ſhilling from him; at all events, it would have entitled him to the benefit of an offer ſaid to have been originally made by Mr Cauvin, to ſettle his claim of damages for 4l. Sterling: and, 3*dly*, In point of law, the defender maintained, that he could not be ſubjected in theſe expenſes, as they had been incurred, upon frivolous grounds, by the Meſſrs Dickſons reſisting Mr Cauvin's claim for damages.

On conſidering the petition for the defender, the Court, upon the 29th November laſt, pronounced the following interlocutor: 'The Lords having heard and conſidered this petition, and heard the counſel for the parties *viva voce*, they, of conſent of the reſpondent, alter the interlocutor complained of, in ſo far as regards the *ſolatium* of 30l. Sterling, and aſſoilzie the petitioner from that article: Refuſe the petition *quoad ultra*: Find the petitioner liable

in

in ſix guineas of additional expenſes incurred by the reſpondents' appearance this day; and decern.'

A ſecond petition was preſented to the Court, in which all the topics contained in the former petition were reſumed; and, in addition, it was ſtated, that the purſuers had exaggerated the amount of the damages for which they were found liable to Mr Cauvin, in ſtating them at 20l. inſtead of 12l. 13s. 1d.; and therefore, that the ſum really found due, including expenſes, was only 51l. 3s. 1d., being 7l. 6s. 11d. leſs than the defender had been ſubjected in by the interlocutor reclaimed againſt. The Court altered to that extent accordingly; but adhered, *quoad ultra*, to their former interlocutor.

The principles which the Court recognized in this deciſion, and as applicable to the caſe, were:—that if ſeedſmen could not make the grower from whom they purchaſe ſeeds, anſwerable for ſelling ſeeds of a deſcription different from what they bargained for, the public could have no ſecurity that they would get the article they were in want of from the ſeedſman. On the other hand, if the merchant or farmer dealing with the ſeedſman ſhould be held as liable to make good the loſs ſuſtained from the ſeed turning out unfit for the purpoſe for which it was ſold, they would adopt ſuch precautions as would prevent any thing of the kind from happening. Beſides, it was held to be agreeable to the principles of ſtrict law, that every perſon who ſells a commodity to another at a fair price, virtually warrants the commodity as of good quality; and if a perſon ſells one commodity under the name of another, he muſt be anſwerable for the conſequences.

FOR THE FARMER'S MAGAZINE.

Reflections during a Winter Day's Walk.

"*This faſt and ſolid earth, that blazing ſun,*
Thoſe ſkies through which he rolls, muſt all have end.—
What then is man? the ſmalleſt part of nothing."

HOWEVER bleak and uncomfortable the country may appear, during the ſeverity of winter, to thoſe who view it from their firesides amidſt the ſmoke and buſtle of the city, I believe it to be indiſputably true, that no ſeaſon is more calculated to produce happineſs in rural life, than that during which nature ſeems diveſted of all her allurements. At the commencement of winter, when hope may be ſuppoſed to have little ſway over the mind, the alleviation of labour and the reign of plenty diffuſe gaiety around the ruſtic circle. The feſtivities of the holidays beguile the period when we are leaſt revived by the influence of the ſun; and they are hardly concluded, when the renovation of the year, and the evident progreſs of the ſeaſon's triumph over cold and darkness,

darkness, restore the husbandman to hope and activity. To those indeed of a turn for thoughtfulness, there is, I think, no part of the year so congenial, as the season when the trees are stript of their verdure, and the walks covered with the decay of the leaves. One of the calm and bright days of winter is perhaps the time when a saunter is most enjoyed,—when we can with the greatest pleasure and memory dwell upon past scenes,—grieve over circumstances of sorrow, and departed friends,—or rejoice in the happy issues, or laugh at the ludicrous events, of former days. A person, in such a train of meditation, will not perhaps remain long without calling to recollection the changes upon the surface of the kingdom, which a few years have produced. And should a man of middle age trace back in remembrance the different stages of inferiority to the days of his childhood; and from that point, in idea, and in an equal retrogressive scale of inferiority, dive into antiquity, he would, in a very few years, see us involved in all the horrors of barbarous ignorance. The positive results of investigation are, however, seldom exactly in conformity with the speculative inferences of sagacity; and the best supported arguments from probability must yield to the simple exposition of facts. When we look into antient times, we may have good grounds for supposing, that many of the arts of agriculture were little known or studied, and that a great part of our best arable lands were pastures of different degrees of value: but we shall be deceived, if we imagine that any antient and barbarous nations were not possessed of a considerable degree of knowledge and solicitude regarding the farmer's occupation. We have already seen, in your Magazine, that the *Hedui* and the *Pictones* rendered their fields very fertile by the application of lime: and the following two laws, enacted in the 9th century, by Kenneth, king of the Scots, will show that monarch to have had both an interest and a knowledge in agricultural affairs.

'1*st*, Let no man sow in the earth any grain, before it be 'purged of all the weeds. 2*d*, He that, through negligent sloth, 'suffereth his arable land to be choked up and overgrown with 'weeds; for the first fault, let him forfeit an ox;—for the se-'cond, ten oxen;—and for the third, let him forego the said 'ground.'

There are several other laws, regarding agriculture, by the same prince, of equal use and good sense. That the arable land, however, could not, at a period far remote, have been extensive in Scotland, I have good reason to believe. In charters of the 17th century, the best fields near a very antient and populous town are called the *novæ culturæ*, and the *terræ adhuc minime laboratæ*; and I make no doubt that satisfactory evidence could be brought of

of this fact from a variety of different quarters. The face of the kingdom was, however, probably as beautiful in antient times as at present, from the richness of the pastures, and the luxuriance of the forests. The castles of the nobility, some of which still remain in view, while others have totally disappeared, must have added much to the effect of the scenery; and although Edinburgh was not, in the 14th century, anywise to be compared with the country towns of any note in the Netherlands, yet I apprehend that the Scots gentry had good reasons for confining their magnificence to the country, and frequenting the capital as little as possible.

When we peruse the page of history, and look to the present state of science among mankind, we cannot fail to be struck by the mutability of human affairs. Where, but a few centuries ago, the landscape presented the gloom of the forest thinly inhabited by men, and by beasts hardly more ferocious than they, we behold the seats of commerce, learning, art and luxurious refinement; and when we turn our eyes towards those nations from which the light of science was first diffused over the earth, we are saddened by the view of the deserts amidst which their ruins are scattered;—ruins, which nothing, except their matchless grandeur and durability, could still preserve as fleeting monuments of the greatness of the people who could imagine and execute such stupendous works, and which a few centuries more must consign to the dust.

"All has its date below: the fatal hour
Was register'd in Heaven, ere time began.
We turn to dust, and all our mightiest works
Die too: the deep foundations that we lay,
Time ploughs them up—and not a trace remains.
We build with, what we deem eternal, rock:
A distant age asks when the fabric stood—
And in the dust, sifted and search'd in vain,
The indiscoverable secret sleeps."

To trace cities from the smallness of their beginning to the days of their zenith, and thence to their caducity and final extinction through all their gradations, would require as great a capacity of mind, as to trace the acorn through all its changes up to the mighty oak, and that again down to the disunion of all its parts, and total disappearance: but experience teaches us to anticipate the future from the invariable examples of the past. Amidst the busiest confluence of men in even the streets of London, the conviction must, if courted, come upon us, that we too must have our turn;—that time, which is ever changing the face of the earth, has no mandate to spare us from the general fate;—and that,

from

from the more perishable nature of our works, they shall have little chance of competition in after ages with the Egyptian ruins, or the remains of Palmyra or Athens. It has been the study of many philosophers, to ascertain the original formation of the earth and of our solar system. Were we to take Buffon for our guide, we must believe that our globe, from being a part of the body of the sun, has taken about 35,000 years to cool into its present temperature; and that, in about 70,000 or 80,000 more, its surface will be cooled into a mass of ice, and incapable of being inhabited. Ingenious as his theory is, and well fortified by probabilities, I think it contains insurmountable objections. It would, however, be satisfactory, could we from facts ascertain how far our present climate corresponds with that enjoyed three or four thousand years ago: though, from the facts extant, I apprehend the real state to be very difficult of discovery. On one side, it is very difficult, when we read that England produced wine for some centuries after the Conquest,—that Ireland was then the seat of learned men and science,—and that Greenland was mistress of a population which the increasing intensity of the cold forced to leave it,—to withhold our belief that the earth has declined in warmth within the last thousand years: While, on the other hand, we find that animals which now only breed in climates as far north as Lapland, were antiently common in Germany,—that seas which were formerly occasionally frozen, are now always liquid,—and that we are now exempted from those summer frosts which used in antient days to ruin the vegetation, and cause famines. In addition to these facts, I think that the description of the climate of England given by the Romans who first visited it, is more unfavourable than it deserves in our days.

Upon the face of the earth much change has been effected by the gradual lapse or cadency of water, by the concussion of earthquakes, by volcanoes, by the continual efforts of the ocean, and by the unceasing industry of mankind.

I shall conclude these reflections of my walk, by stating the recurrences of a cause which I think well worthy of the attention of mankind; and as several facts which I mean to apply to my opinion, are not stated, by any author that I have perused, as in the least deriving their origin from the cause from which I presume they did, I shall leave them to the better informed, wishing rather to receive than to enforce instruction. I think, Sir, it is evident from history, that very important effects have been produced by the returns of the comet of 1680 to our part of the solar system. The period of the revolution of this comet is known to be 575 years; and the eighth return, tracing backward from the last appearance, coincides exactly with the received belief of the

the period of the great universal deluge; and Dr Halley indeed supposes this to be the case.

The second return, being 1767 years before the Christian era, is coeval with Ogyges; and it may be remarked, that this prince, and all his people, perished at that time by a deluge. This appearance was by the antients thought to proceed from the planet Venus, which changed her colour, size, figure and course.

The third visit, in 1193, is implied in the fable of Electra, the seventh of the Pleiads, who have (to use Mr Gibbon's words) been reduced to six since the Trojan war. That nymph, the wife of Dardanus, was unable to support the ruin of her country; and, abandoning the dances of her sister orbs, fell from the zodiac to the north pole; and obtained, from her dishevelled locks, the name of a comet. I must add to this account, that Homer, without the least knowledge of the laws of attraction, states, in the beginning of the 12th book of the Iliad, that after the taking of Troy, the works he celebrated were destroyed by a deluge, occasioned both by the rising of the ocean, and by the ravages of seven rivers. This fact has appeared so strange to many, that some, not knowing why it was introduced, have thought it an interpolation; and others, that Homer had the address to insert it, in order to conceal the apparent want of truth in his description. Homer, surely, in a work so much adorned with imagery, need not have been so cautious; nor needed others have taken the trouble of rendering a poet strictly accurate in his descriptions of places, whose other descriptions borrow so much from fiction. I believe that Homer, who built his edifice upon the basis of received opinion, merely stated a well-known fact, and one for which we can perceive a sufficient cause. How much unavailing trouble, then, about the relics of the *Troad!*

The fourth period expired in the year 618, a date which exactly agrees with the *tremendous comet* of the Sybil, and perhaps of Pliny, which arose in the west two generations before the reign of Cyrus. Of this appearance I do not know of any recorded effect, if perhaps we do not find the disappearance of the continent Atlantis to correspond with it.

The fifth visit, 44 years before the birth of Christ, is well known; it is the same as that of the famous *sidus crinitum* of the games which Octavian celebrated in honour of Venus and his uncle.

The sixth appearance was in the 5th year of Justinian, which coincides with the 531st of the Christian era: and as it was in the preceding instance, so it was in this, attended by a remarkable paleness of the sun for a great length of time. Such was the corruption of the atmosphere, in the reign of Justinian, that the plague

plague raged with a violence never known before or since; and the air did not recover its salubrity for the long period of 52 years.

The seventh return, in the year 1106, (Henry I. of England), is recorded in the chronicles of Europe and of China. Of this return, I think I may state the deluges mentioned in history as a probable effect. Gibbon does not hesitate (though not enforcing any opinion) to overlook the difference of accounts in the preceding return, though they amount to eight years, in fixing the identity of the comet. Trussler's chronology states the year 1100 as the epoch of the deluge which destroyed the Goodwin estate; and Fordun and Buchanan mention inundations astonishing, *about* the period which Dr Trussler mentions. Buchanan is not particular as to the year; but speaks of the prodigies of *that age*. Boethius mentions 1097,—when many towns, great woods, both in England and Scotland, were overwhelmed by the exundation of the German Ocean;—likewise, that the land of Moray in Scotland was desolated by the sea—castles subverted from the foundation—towns destroyed—monstrous thunder roaring horrible and vast. Fordun expressly mentions a comet, to which he ascribes the influence of the waters;—the sowing of winter grain was prevented *aquarum nimia inundatione*. The records of the priory of Pluscarden mention the inundation to be in 1010, (may it not be mistaken in the reading *for* 1106?). The traditions of the deluge which changed the north coasts of the states bordering upon the Baltic, point to about 1100. Buffon mentions a great inundation, in the reign of Henry I. of England, upon the coast of Flanders. Henry ascended the throne in 1100; and in the 1095, there was a deluge in Syria, which drowned a number of people, (*Alsted's Chron. ch.* 25.) From these circumstances, I certainly attribute all these inundations to the visit of the comet about 1106; and I believe the trifling variations in the accounts, may be easily attributed to the inaccuracies of the relation of facts, taken, at a distance of time, from the memory, and not recorded as of much import as to date; and to the erroneous reading of the old writing or figures in the manuscripts.

The eighth return, in 1680, was, Mr Gibbon says, presented to the eyes of an enlightened age. Its road in the heavens was observed with exquisite skill by Flamstead and Cassini; and the science of Newton, Bernouilli, and Halley, investigated the laws of its revolution. I do not find the effect of the gravitation of this comet was perceptible upon the earth at this visit; although, in passing through its southern node, it passed within a semidiameter of the sun of our orbit, and would have occasioned a total destruction of the earth by fire or concussion, or by carrying it off

off in its course, had not it been, at the time, in a distant part of its orbit from that which the comet passed.

The ninth return will be in the year *2255*: but whether it will then be observed by the philosophers of Siberia and America with all the coolness Mr Gibbon supposed,—or create more serious sensations,—must remain in the womb of time.

The reflections upon the influence which this great comet seems to have had upon the globe, in so many instances, has convinced me, that as it has been the cause of the great deluge, it will likewise be that of the final conflagration. The belief of all ages, and of all nations, concur in showing, that such an event will happen; and some religions even point at the rolling of a comet below the moon, as the cause of the catastrophe. Our own religion paints, in very plain colours, the effects of vast gravitation at the final hour—the tremendous rising and rolling of the ocean—and the shaking of the earth, the natural effect of great and unequal powers of attraction in the different parts.

Should the case appear to your readers as it does to me, my winter's walk will not be without its proper use. We cannot too often reflect upon the transitory nature of our existence, and of that of the vast machinery by which we are surrounded,—so amazingly great to our faculties, but nothing in the eyes of the Godhead: and we shall find our minds exalted in the meditation of our littleness, when we think, with the poet, that—

'The cloud-capt towers, the gorgeous palaces,
The solemn temples, the great globe itself,
Yea, all which it inherit, shall dissolve,
And, like the baseless fabric of a vision,
Leave not a wreck behind.'——

I am, Sir, your constant reader,

November, 1808. SEVERUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Cursory Reflections on Leases.

SIR, *Laurieston, 31st December*, 1808.

I am extremely happy at being unexpectedly, and, I assure you very accidentally, the means of exciting discussion on the subject of the draught of a lease published in your Magazine;* a subject which, I humbly apprehend, is one of the most important that has been laid before your readers. Considering how immediately connected

* No. XXXIV. p. 182.

connected this subject must be with hundreds of them, it is difficult to account for the general silence on this draught, unless on the principle *consentiendi et silendi.*

The lease, generally speaking, may be called the mould in which agriculture is cast; consequently, it becomes of the last importance, that every flaw in it be soldered up, and every inconvenient protuberance beaten down. I would, therefore, with the utmost deference, propose a warm solicitation to your numerous intelligent readers, as a matter of national utility, to bring forward such hints as their experience necessarily qualifies them to give,—not in confinement to the lease under consideration, but respecting our Scotish lease in general. Much imperfection, certainly, exists in the present styles of this contract; and, if the experience and observation of those connected with it could be collected, such a lease might thence be constructed, as would harmonize landlords with their tenants, and greatly increase the product of our soil, upon which, in the present state of Europe, our existence seems to depend.

Your correspondent Mr X. S., to whom the public is obliged for his remarks on this subject, more especially as he seems to be a practitioner, and to be privately acquainted with the lease under discussion, differs from me. * But it is surprising that such a gentleman, in his answer, should have adopted the plan which an angry child or a vanquished reasoner generally takes,—of leaving the subject, and accusing its supporter. He 'indeed suspects that your Laurieston correspondent has never been an *outgoing* tenant, and never been an *incoming* tenant;' which *suspicion*, if connected with the argument, ought to serve principally to remind us *both* to divest ourselves of the prejudices which these characters have engendered in our minds. I should have liked to have heard his opinion on the practice proposed, of employing tradesmen or other qualified persons, to visit, and report upon the state of the houses, &c. on a farm at the tenant's removal. This is an essential part of my proposition, which Mr X. S. has been '*proper*' enough to overlook. My humble opinion is, that, by acting according to the clause as it was submitted, unfair strictness would be used to no party, (for nothing is unfair, if within the stipulation); and, while business would be more smoothed and expedited, much ill-will and gibing, and even litigation, would be put a stop to. I beg Mr X. S.'s pardon, if he has been an *outgoing* tenant, as I am sure he has not been an *incoming* one; for, without exception or mercy, he lashes off the field the whole of the latter description, as '*smugglers and whisky-retailers;*' † all

* No. XXXVI. p. 466; see also No. XXXV. p. 344.

† P. 466.

all the numerous and hitherto celebrated class of young *in* who have studied in the Berwickshire and Northumberland s &c. &c. falling under the general anathema!

I shall postpone making any comments on Mr X. S.' remarks, till he fulfils his promise of giving his opinio the rest of the lease; when, Sir, if you think proper, a been drawn into this question already, I shall submit a fe tures concerning it in general. In the mean while, beli Sir, yours most respectfully, J. B—

TO THE CONDUCTOR OF THE FARMER'S MAGAZIN

Strictures on X. S.'s Letter, p. 466. vol. 9th, concerning th of a Lease framed for an Estate in the South of Scotl

SIR,

When correspondents address you, I believe most of yo ers, like me, will expect instruction communicated with nevolent intention of doing good to the public; and, in ing any subject, that unfounded assertions will not be sul for fair argument. How far the letter of your corres X. S., inserted in p. 466 of your Magazine, No. 36., has a to that spirit, or these intentions, I shall now take the li submitting to your consideration.

The letter to which I allude, appears as if intended t answer to the observations of your Laurieston corresp but, after the most attentive perusal of this production, I find any refutation of what was stated in the observations to. On the contrary, the mention of these observations have been introduced with no other view than to afford a to your correspondent to offer his opinion on that le which, had he done it with that candour and fairness b every inquirer after truth and knowledge, the public wo been obliged to him.

With these few general remarks, give me leave, nov amine this correspondent's opinion offered to the public, to condemn the lease. It begins with an assertion, th ill calculated for the encouragement of an industrious te the improvement of the neglected estate for which it wa ed.' Here is not only an opinion, but an assertion, i that the estate was much neglected. For what purpos sertion was brought forward in an abstract question r the merits of the lease, and upon what evidence it is fo not so obvious.

Your correspondent next observes, 'A few, and but a few of the clauses, carry out the report Dr Coventry assisted in framing when the estate was surveyed.' From this, it would appear your correspondent is more in the secret than I can pretend to be; and that he had not only seen Dr Coventry's report, but been privy to the assistance he gave in framing the lease. How far this may be true, and whether or not your correspondent may be anyways connected with Dr Coventry, I cannot pretend to say; neither is it of the smallest importance to the public. But the evident tendency of the remark is, to relieve Dr Coventry of any blame, in the faults this anonymous writer ascribes to the lease, which, it would seem, he had known was framed with the Doctor's knowledge, and under his advice. Whether or not Dr Coventry will thank this writer for his courtesy, is a little doubtful; but, without stopping to inquire, I observe—

Your correspondent, applying himself to J. B—k, says he suspects he has never been an outgoing tenant; and in the very next paragraph he says, 'I suspect Mr J. B—k has never been an incoming tenant.' Would it not have done better to have said, in one word, he suspected Mr J. B—k has never been a tenant in any shape;—therefore, his opinion is not to be regarded? This, no doubt, is a very concise method of refuting any opinion. His illustration, quoted from Mr Marshall, is not of so easy application, nor indeed can be applied, in any shape, to an anonymous person, of whose birth, parentage, &c. we know nothing; but when it is conjoined with the assertion it is intended to illustrate, that Mr J. B—k assumed a 'preeminence in favour of the incoming tenant, which experience does not teach, nor practice justify,' it amounts to mere assertion and declamation, and proves nothing.

Your correspondent, proceeding in the same declamatory style, and comparing the merits of an outgoing with those of an incoming tenant, says, 'The latter, frequently new adventurers, probably a mechanic, a cattle-dealer, a horse-dealer, a fisher, a smuggler, or a whisky-retailer, outbid the judicious farmer,' &c. All this, however, is still mere declamation, and proves nothing. So far, it is perfectly innocent; and the public will treat it with the attention it merits. But what follows is by no means so harmless. In a parenthesis, your correspondent throws off his character of critic, and comes forward as a witness; and states, from *his own knowledge*, that *such adventurers have insured* a preference, by means which, I must say, appear the most unjustifiable; and would reflect disgrace on every party concerned in such transaction. This, no doubt, is demonstration with a vengeance, especially when it is joined with the note added by refer-

ence upon the same page, applying it, in a manner too plain to be mistaken, to an estate in the south border of Dumfries-shire. It appears to me to form a subject more proper for the cognizance of a law court, than a periodical publication. A discussion in that way would be attended with this additional advantage, that this anonymous witness could be cross-questioned as to the truth of his assertion. Dr Coventry, too, could be adduced as a witness. Perhaps he may have been a party to reletting every farm on that estate; in which case, he could be asked particularly, whether or not he knew any thing of such transactions as those alluded to by your correspondent; and this ultroneous witness would have an opportunity of pointing out that motley band of adventurers which the proprietor of the estate had very unadvisedly preferred to many skilful, experienced, knowing, and worthy old tenants.

I beg leave to add one further remark on this part of your correspondent's letter. He agrees in the observation of your East Lothian correspondent, that it is an 'invidious task to contrast the character of the modern farmer with his predecessor;' and yet, almost in the same breath, only a few lines before, he asserts, that in knowledge and experience, disposition and principle, the '*new is seldom the old tenant's better.*' How inconsistent and inconclusive is this method of reasoning!

In the next paragraph of your correspondent's letter, he proceeds to object to the obligation in the lease upon the tenant, to furnish carriages of the materials for the buildings; and in order to bring discredit on this obligation, has recourse to the word *arruge* and *carrage*, which no doubt connect with them the idea of the odious services of times of remote antiquity. The only other *objection* to this obligation, if indeed it merits that name seems to resolve into this, that the tenant will have enough of extra work upon hand, independent of such carriages.

I cannot help suspecting, from this paragraph, that your Dumfries- rrespondent is very much in the same predicament with that imputed to J. B—k. He has never been either an incoming or outgoing tenant; in a word, that he knows nothing about the matter. If I am not mistaken, the reason for taking the tenant bound in carriage of materials, is this, that the burden of buildings or repairs may be rendered more easy to both proprietor and tenant by the division. In the case of buildings, it is fair and usual to stipulate a certain sum to be laid out for the tenant's accommodation; and most willingly do all good tenants agree to pay a per centage for such outlay. But as it is consideration of no small consequence, that this per centage should be kept as low as possible, and as the carriage of materials

terials is a heavy article in such outlay, so, every wise tenant will consider, whether or not he has as much time and labour to bestow as will be adequate to that object; and, if he has, he surely cannot employ it better. Accordingly, so far from declining, most tenants are the first to propose this stipulation, in order to keep down the expense of building, and thereby lessen the rent. Thus far, therefore, your correspondent proceeds upon mistakes, and finds fault with a stipulation introduced as much for the benefit of the tenant as of the proprietor. But when I have said this, I must take the liberty to add, that the enactment he proposes to substitute in place of this clause, strongly betrays the grossest ignorance of farming, viz. 'that the tenant should *not work for hire* with either his farm horses or servants during the first three years of his lease.' Now, Sir, give me leave to ask, if you ever knew of any farmer above the degree of a carrier, cottager, or some of the motley group whom this libeller introduced into the first part of his epistle, who would either work himself, or let out his farm-servants, horses, &c. to work for hire during any period of his lease whatever, provided he had a farm of extent sufficient to employ them?

Upon the remaining criticisms of this paragraph, I think it quite unnecessary to trouble you with any remarks. The criticisms upon the words *proper*, *general*, and *good*, (dull enough in themselves) lead to no serious conclusion; and the writer's *veto* upon the lease, with which he concludes, is but one feeble voice.

In the third paragraph, the writer notices an indulgence introduced in favour of tenants, allowing them to name their heirs. Here give me leave to observe, that your correspondent seems, in this instance, equally ignorant of law as of farming. In this clause, there is certainly nothing new; because a tack to *heirs* simply, would descend to the heirs by destination of the grantor, as well as to the heir of line, whether there had been any such stipulation in the lease or not. The clause, therefore, is not new, but a little better expressed than usual. Your correspondent, indeed, suggests a further improvement upon this clause, by adding a power to dispose of the lease under suitable conditions. Upon this point, I shall take the liberty of stating a few remarks in the sequel. In the mean time, give me leave to observe, that although thus far the paragraph is innocent, and may pass; yet, in the long laboured period, introductory of this suggestion, the writer has introduced an inuendo, by no means either so innocent or inoffensive, importing that the parish church doors in the neighbourhood of this proprietor's estate, are every Sunday loaded with the advertisements of the

sales of the chattles, &c. of his tenants, by virtue of a wa
of the judge-ordinary. And when, to this, is added the
subjoined by reference, it is hardly possible to conceive any
more calumnious or improper. It is no doubt evidently no
more than the assertion, or rather abuse, of an anonymous
er; therefore ought not to be dignified with the name of re
ing, and will be treated accordingly.

In the next paragraph, he attacks the stipulation of the
centage upon money to be expended in improvements. Th
does upon several grounds, and in a very desultory manner;
the chief objection seems to rest upon this principle, that it
usurious stipulation. If this indeed is true, there can be no d
as to the impropriety of the clause. The only question, t
fore, that remains to be tried, is the truth or falsehood of th
sition.

I assume, as a general proposition, that, in all buildings,
per cent. is no more than a fair return upon money laid out.

My next proposition is, that any bargain with regard to
point, is matter of fair covenant between the parties, totall
connected with any public law yet known; and I assume
further axiom, that if parties have contracted, or shall con
for themselves, the public have no right to interfere.

I do not assume these premises as unknown in the law o
ther Scotland or England. I hold them to be the law of
countries, until better instructed; and if my view of this ge
principle is right, give me leave to put a few questions to
correspondent of yours.

1mo, Who told him that any general rule could be establ
as to the extent or measurement of any farm? Must not th
ways depend upon the joint opinion both of lessor and lesse

2do, Who told him that the payment of six per cent. or
provements is a barrier in the way of agriculture? Did he
this from Dr Coventry? Does not the daily experience c
most every county in Scotland prove directly the reverse;
that tenants are always eager to grasp at such a condition,
they have the good fortune to fall in with landlords, whose
lence and liberality can enable them to make the advance?
word, is it not better to pay a fair per centage, than sink th
pital, which the farmer must do, if he is to incur the expen
the improvement? One obvious remark must occur to every
son who considers the subject; namely, that this part of the
tract must at all times be the subject of a particular bargai
tween the parties, in which the public law of the country h
sort of concern. It cannot, even by any perversion of lang
be termed an exaction; because the request must at all

some from the tenant; nor has it the most remote connexion with the statutes of usury, because the capital is not lent, but sunk; in most cases, I believe I may add, irrecoverably sunk. As well, therefore, indeed with a much better grace, might he attack the sale of every annuity,—sales which take place every day, and which the law fully recognizes. In the one case, money alone is the subject of the bargain; in the other, the improvement of the farm, and advantage resulting therefrom, is the subject of bargain; of which the tenant must evidently foresee the benefit he is immediately to derive from the purchase.

Upon this point, too, your correspondent is pleased to have recourse to what he terms facts; which, he wisely observes, are better than a cloud of such calculators. But here, again, I confess I was disappointed; because, when I proceeded, in expectation of having some striking facts or experiments stated to illustrate his proposition, I found nothing but dry inconclusive assertion, or observations so trite, as scarcely to merit notice; such, for example, as that clap-dikes with a hedge are not sufficient fences for the first five years, and that drainage yields the most immediate return. The meanest farmer in Dumfries-shire could have told him this. But how does this apply to the proposition, that the payment of 6 per cent. on improvements is a barrier in the way of agriculture, or that parties have not a right to bargain for expenditure of money for these purposes, and that such bargains are in any degree unlawful?

Your correspondent proceeds, in the next paragraph, to offer a few observations on the reservations for planting. Here, again, I confess I was disappointed. I was glad to find he approved of planting, and expected something new to be said on the subject; but you may guess at my astonishment, when I had finished the paragraph, to find no other information, excepting that his Lordship's nurseries were overgrown; and a kind of sly hint that he would not allow his tenants to touch them. I believe, in this respect, his Lordship is by no means singular.

But I come now, Sir, to take notice of what appears to have raised your Dumfries-shire correspondent's indignation to the highest pitch; I mean, the clause by which the lease becomes vacated at the landlord's option, in the event of the tenant's bankruptcy. This clause, he says, 'seems to be an infringement of the eighth commandment.' His illustrations, however, so far from proving his assertion, appear not very intelligible, although abundantly abusive. * With this, however, I have no concern; my

* The assertion, as to the legality of the clause, has already been noticed. It appears a little doubtful in what class to place the following

business is with the clause itself; and particularly with what is asserted by your correspondent, namely, that the clause or obligation is greater than the statute or public law authorises. If this is true, there can be no doubt it ought to be expunged; though, at same time, it must strike every reader, at first sight, that the proprietor must have been very ill advised by his lawyers, if he admitted such a clause into his leases, as was neither authorised by statute, or common law. But, without further general remark, I shall now take the liberty of submitting a few cursory thoughts upon this clause, just in the order they occur, leaving to proprietors and farmers, of more knowledge and experience, to make what use or improvement thereof they may think proper.

Permit me, then, in the first place, to observe, that it appears the object aimed at by this obnoxious stipulation, is to exclude bankrupts and their creditors from the possession of the farm; and if so, the first question that occurs is, whether or not this object is fair? It certainly is not repugnant, either to statute or common law; nay, more, is it not perfectly fair and proper, both in a moral and political point of view? If, therefore, the stipulation has no other object, and can be wrested to no other purpose than to exclude bankrupts and their creditors, your correspondent's wrath against it can arise from no other apparent cause than this, that it seems so far to be perfect, as to insure the end for which it has been framed.

The truth is, the intention I have just now mentioned, is substantially the same as that aimed at by the clause excluding assignees and subtenants. But experience having shown how easily such exclusions may be evaded; and these evasions having received too much countenance from the contradictory decisions of courts of law, the stipulation in question seems to have been framed in such a manner, as to render the object aimed at, the subject of particular bargain, resting upon this general rule, that where

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lowing illustrations;—a royal grant to give the clause effect—his comment on particular words in the obligation—and the sapient question he puts, importing that the statute law required a deed of renunciation—and, lastly, his affected concern for the stamp-duties. All these may form, to some minds, very convincing arguments or illustrations. But I must confess, for my part, I cannot discover, in the whole paragraph, any thing else than the most unqualified and calumnious abuse; which appears the less justifiable, if it is considered, when this writer descends into particulars, and refers to prosecutions in which the validity of the clause has been tried, it is naturally to be presumed he has some knowledge or connexion with the parties, in whose private interests he thus takes upon him to intermeddle, perhaps misrepresent.

where parties have bargained for themselves, courts of law must of necessity give effect to such contracts, unless the object of them can be shown to be contrary to statute or public law, as your correspondent has roundly asserted.

That it is not contrary to law, either civil or moral, seems perfectly evident; and I feel myself fortunate in being able to quote, from your own Magazine, an authority, in my opinion, much more respectable than your Dumfries-shire correspondent; I mean, that of another of your correspondents, upon the same subject, (vol. ix. p. 441.) His opinion is, 'The right of landlords to exclude assignees and subtenants is undoubted.' He no doubt adds, 'but its policy appears to be questionable.' Upon this point, I may probably hereafter say a few words. But it is not the policy, it is the legality and fairness of the bargain that is now the question in discussion. The discussion of this subject I admit to be perfectly fair; and had your correspondent X. S. followed the example set him, and combated the proposition like a philosopher and a man of candour, the public would have been obliged to him: but I can find nothing like reason or argument to prove his proposition; nor indeed any thing but senseless calumny and declamation. Perhaps the stipulation he impugns may be found so impregnable, as to admit of no other mode of attack. Certain it is, the exclusion of assignees and subtenants, and the clause excluding a bankrupt tenant and his creditors, rest upon the same basis, namely, the *delectus personæ;* which, if I am not mistaken, our law says, is necessarily inherent in the very nature of the contract. Both exclusions are substantially the same, and must stand or fall together. If, therefore, the principle on which they rest, be established upon sound law, and sanctioned by immemorial usage, it would require very strong reasons indeed to shake this fabric.

Were it necessary to discuss the reasonableness of this *delectus personæ*, so strongly founded in the law of this country, I think it may be fairly deduced from the very nature of property in which it is inherent. But I rather choose to leave this point to the speculations of the Civilian, and to return to your correspondent above quoted, on whose remarks I shall take the liberty of throwing out a few observations.

I have already noticed, that he admits, in the most unqualified manner, the landlord's right to exclude assignees and subtenants, which, in my view of the case, is in every respect equivalent to an exclusion of bankrupts and their creditors; because, you will please observe, every bankrupt *may be compelled to denude* himself, either by voluntary or legal deed; that is, upon his becoming bankrupt, he must either assign or subset, as directed; which, by the lease, he has no right to do.

But

But your correspondent says, 'I do not think the law would sanction a clause of *irritancy* in the event of a tenant becoming bankrupt, provided the rent is continued to be paid.' I much doubt, that gentleman has not fully studied the clause in the lease now under discussion; otherwise he would have viewed this matter in quite another light. You will please observe, an *irritancy* or *forfeiture*, always *presupposes* a *previous* or *antecedent* right in the party to be *irritated* or *forfeited*. Now, give me leave to ask, what antecedent right have the creditors of a bankrupt in a lease, whereby assignees and subtenants are excluded? and, if no antecedent right can be found, is it not clear the creditors can forfeit nothing; so that, *quoad* them, there is no irritancy?

But it may be asked, why irritate the lease *quoad* the bankrupt tenant? The answer is plain; he has brought himself into that predicament, that he must of necessity contravene the grant. He must either assign or subset. From thenceforward, the interference of the landlord, in my opinion, becomes unavoidable. He is then called upon to judge for himself, and to say, whether or not he chooses to permit this bankrupt tenant to continue in the management of his farm for the behoof of his just and lawful creditors, or perhaps to sell the lease with his consent, after which all exclusions would be at at an end. The third and last alternative is, that, foreseeing consequences in either of these measures ruinous to his farm, he, like every other creditor, finds it necessary to provide against loss, by clearing the farm to make way for a solvent tenant, who will do justice to the premises and to himself.

Your correspondent, however, puts a case, that perhaps the tenant might have been a bankrupt before he entered into possession; from which he seems to infer, the landlord had no right to complain, or to enforce the condition. But if this proves any thing, it proves a great deal too much. In the first place, it implies, that the landlord knew, and contracted with a bankrupt; if so, I will readily admit he can have no right to enforce the condition; nay, more, I think both the exclusion of assignees and subtenants, and the condition of bankruptcy, would have been perfectly absurd, if not worse. But did you ever know any landlord who would wittingly and willingly let his farm to a bankrupt? Would any man, in that predicament, have the effrontery to make the request? Does not the bare statement of the proposition carry its own refutation *in gremio?* At same time, I must admit, that experience and observation have taught me to believe, that landlords are far from being so strict and attentive in their inquiries after the circumstances and characters of tenants offering for their farms as they ought. But I cannot believe any instance

stance can be produced of a landlord accepting of a *notour bankrupt* for his tenant; or that he would accept of any tenant *substantially bankrupt* at the time, if he knew it. And here, you will observe, the clause under discussion ascertains, in the most accurate terms, the predicament which shall be held to be a *proof of bankruptcy;* so that, on this point, there can be no mistake. Nothing is left *in arbitrio judicis;* and thus far the stipulation may be considered as an improvement upon the usual clause excluding assignees and subtenants.

Viewing, therefore, the lease as a fair contract entered into between a judicious landlord, aiming at a full rent and the improvement of his farm, on the one part, and a tenant *bona fide solvent*, and having substance adequate to the rent and stocking of the farm, on the other part; the exclusion of assignees and subtenants, and providing against bankruptcy, which of necessity admits them, appears to be not only perfectly fair and legal, but even a prudent measure, which has been sanctioned by the wisdom and practice of the remotest times. And your correspondent well observes, third parties have no right to complain of a stipulation so universal in all contracts of that nature—I had almost said inherent in the very nature of the contract itself. And if this stipulation has been rendered so clear and unambiguous, as to preclude the possibility of doubt, third parties have rather cause to applaud than complain; because, thereby, they are prevented from entangling themselves in the doubtful labyrinth of a lawsuit, upon clauses ill defined and liable to misconstruction.

Having submitted these observations on the legality of the clause so obnoxious to your Dumfries-shire correspondent, it is almost unnecessary for me to add, that what he proposes as an amendment should be termed an innovation upon the almost universal subsisting practice of the country, namely, the exclusion of assignees and subtenants in leases. Was this practice to be established, and leases let to the tenant, his heirs and assignees, there would, no doubt, be an end of the obnoxious clause which has given so much offence to this correspondent; but, at same time, his amendment, so much resembling an ill digested draft of part of a trust-deed, would be also unnecessary; and the rights of parties would rest upon the basis of a simple contract for a temporary right disposable at pleasure, and rendered an article of sale to all and sundry. Whether or not such a new order of things would meet the approbation of the landlords of Scotland, may be matter of after consideration. At present, I incline to relieve you of any further trouble in considering that point, by concluding this epistle, and subscribing myself, your most humble servant,

AGRICOLA TERTIUS.

NOTE.

NOTE.

THE Conductor at this time refrains from offering any remarks upon the above important and ingenious letter, which he understands to be from high authority; though he must dissent from several principles therein inculcated, as may be exemplified in a future Number, when the draft of the lease alluded to shall be examined with some attention. It would be premature, therefore, to offer any particular observations at present; though there can be no impropriety in stating, that many amendments seem to be necessary, before that form of a lease can be considered in the light of a perfect one, as shall afterwards be shown. The Conductor, in the mean time, expresses regret, that a passage in one of the foot-notes of X. S.'s letter, which rather carries an improper reflection, should have given some offence to a most respectable gentleman, who is understood to be law agent upon the estate for which the lease was framed The passage escaped attention in the hurry of revisal; otherwise it would have been expunged. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints concerning drawing a Plough by Shafts.

SIR,

IN the course of my acquaintance with farmers and farming, I do not recollect ever having heard of, or seen, a plough drawn by shafts, in place of the harness usually adopted.

A friend of mine lately suggested to some practical farmers the use which shafts might be of to a plough; and they all seemed to agree, that, on level ground, where a wheel-plough could be used, shafts would be of very considerable utility; but they deemed it necessary that the shafts should be so contrived as to fix to the muzzle of the plough.

Perhaps (should you insert this in your valuable Magazine) some of your correspondents may be able and willing to give their opinion on such a plan. I am, Sir, your most obedient,

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TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requested concerning Turnip Culture.

SIR,

As the season for sowing turnips approaches, it might be of much use to this district, and to others where their culture is little

little understood, to be informed, through the medium of your next Number, what varieties of this root are held in most estimation by the agriculturists of Norfolk, Northumberland and Berwickshire;—where the seed of those varieties is to be procured in the greatest perfection;—and where a drawing or model of the most approved barrow can be seen.

Permit me to solicit, through the same channel, the remarks of *Arator* on agricultural subjects, as frequently as he finds it convenient to give them. I do not conceive any of your correspondents better fitted to instruct the practical farmer, than the person who writes under that name. If he is acquainted with the culture of carrots, let me request him to detail it minutely; as likewise the appropriation of the crop.

I am, Sir, your most obedient servant,

Banks of Clyde. G.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

ENCOURAGED by the reception formerly extended to my communication on the subject of Diseases of Sheep, I enclose a translation of a memoir on the proper regimen for sheep, by Professor Daubenton, successor to Buffon in the chair of natural history at Paris. It displays facts unobserved, or at least not generally recorded by either preceding or subsequent writers; and the reasonings appear, for the most part, conclusive. In being submitted to an enlightened tenantry, it may be found of no limited utility in leading them to remark those circumstances which, though not obscure, are not generally noted; but, when carefully recorded, may serve to realize all those expectations which a general comparison of opinions will naturally encourage.

I am, Sir, your obedient humble servant,

London. J. A.

Translation of a Memoir on the proper Regimen for Sheep. Read at the Meeting of the Royal Medical Society of Paris, by Professor Daubenton.

A GOOD regimen is necessary to the preservation of the health of sheep: hence, too, one of the best means of curing their disorders. Attention should be paid to the choice and quality of food placed in the rack, as well as to that which they crop in the fields; because from such is derived their sole nourishment in bad seasons; and because the most succulent pasturage is the most dangerous.

Tares,

Tares, trefoil, lucern, clover, and all those grasses equally relishing to sheep, and favourable to health, may prove noxious, if taken in too great quantity. The air which they engender swells their greatest stomach like a balloon; the tension obstructs rumination; and the increase of the size of this stomach compresses the large vessels; stops the circulation of the blood; and causes death, if speedy assistance be not given to facilitate the evacuation of the condensed air, and the passage of blood in the large vessels.

The richer and more succulent the pasture is, the more should the shepherd be distrustful of it. To such he should drive his flock only when they are already partly satisfied, suffering them to remain there but a short time. Grasses, hurtful by their bad qualities, are much less to be feared: sheep do not eat of them, although pressed by hunger. Of this I have to offer some convincing proofs.

In a small space, formed by four hurdles, I enclosed two sheep;—for these animals are so disposed to herd together in numbers, that, if a sheep find itself alone, it is always restless, and endeavours to join company. I caused to be placed successively in the rack, for the two sheep confined within the small space, plants of a noxious quality, or supposed to be so, such as euphorbiums, bryony, ranunculus sceleratus, tuberous ranunculus and many others. The euphorbium and bryony remained untasted in the rack from morning till night. The sceleratus and tuberous ranunculuses, on the other hand, were devoured with eagerness. During eight days, only one of these plants was given as their sole nourishment; and every day water was brought them, of which they drank very little, or refused to drink; which evidently proves, that these plants do not affect sheep, although very bitter,—the tubercles of the tuberous ranunculus especially so. These proofs appear to me decisive:—since a sheep passes a whole day without eating, and offers not to touch a particular plant in his rack, he will never eat this plant in the fields, where others more to his taste are to be found. One plant which has been the sole food of a sheep for eight days, without any apparent bad effect, is still less an object of suspicion in the fields; for we do not find that sheep prefer it always to the other plants which they there find.

Shepherds, it appears, have little to fear as to the regimen of sheep in a good pasture, except the too great quantity of succulent food which they may devour; but the fodder given them in the racks should be carefully attended to.

Sheep become disgusted with their provender when it has contracted a taste or a smell disagreeable to them. Thus, hay suffered

fered to grow rusty in the fields, heated or grown mouldy in lofts, exposed to the exhalations of dung, or tainted by rats, is bad aliment, causing stronger ground for apprehension, when not quite so much spoiled as to be absolutely rejected by the sheep, but sufficient only to prevent them from taking a proper quantity. In the latter case, some do not think it necessary to supply them with better food, although they perceive that they eat less than if it were in good condition. They are not aware, perhaps, that sheep quickly perish, and are exposed to many distempers when they do not take a proper quantity of food. It is then that the animal languishes, becomes scabby; and the best counteracting remedies cannot avail, so long as the cause remains. The wool takes a bad growth; the blood-vessels, which, in a healthy state, were of a lively red colour on the white of the eye, grow pale; and serious and mortal diseases approach, if not prevented by strengthening the sheep by a supply of better fodder.

Sheep require abundance of food, particularly during their three first years: this is requisite, not only for their subsistence, but also for their due growth, and the production of suet; which is peculiar to these animals, and which contributes much to the good quality of the wool.

When the grass of the pasture, or the fodder of the rack, are not in sufficient quantity to furnish nourishment to all the sheep of the flock, the more vigorous outdo the weaker in the fields, and crop the best grass, or drive them from the rack, greedily engrossing the fodder to themselves. Thus, those sheep already enfeebled with a bad constitution, or the seeds of some distemper, languish in want of provision; they daily decay; they lose their wool; and soon exhibit symptoms of many diseases, and chiefly of that called the *rot*. All these evils might be prevented, by giving a daily supply of food to the sheep in want of it. These may be known at night by the state of the belly, which will be found not so much swelled as it ought to be; but this is a doubtful and precarious sign, when only a small quantity has been wanting in the day. Even such trifling deficiency, however, is sufficient to diminish the quantity of milk in ewes, and to stint the growth of lambs. It is extremely hurtful when it occurs repeatedly, and may be almost always dreaded in countries where the pasture or provision is not abundant. It is requisite, then, to know how to proportion the number of sheep in a flock, to the quantity of food which can be furnished them. This is an essential point in the regimen of these animals. But what rule are we to follow, in order not to be deceived in this calculation, and consequently to maintain as many sheep as can be well fed? I have endeavoured to solve this problem, which appeared

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to me of no ſmall importance to the landed proprietor, to agr
turiſts, and, in general, to the proſperity of manufactures ar
commerce.

I confined in a ſmall ſpace, two ſheep, about twenty in
high (the height of moſt woolled animals in France). By w
experiment, I cauſed the ſheep to be fed for eight days ſolely
on graſs newly cut, and weighed, before being placed in
rack. Care was taken to pick up, and replace in it, all tha
ſheep let fall, and to weigh that which they would not eat in
ſequence of its being too tough, or becauſe it poſſeſſed ſome
quality. From this trial, frequently repeated, it appeared th
ſheep of middle ſtature eats about eight pounds of graſs in a
The ſame experiments, conducted with the ſame preciſion, in
gard to the fodders of hay or of ſtraw, have proved, that a ſh
of middle height likewiſe eats daily two pounds of hay, or
pounds and a half of ſtraw.

In order to aſcertain how many pounds of graſs compose
pound of hay, I caused the graſs to be weighed as ſoon as
it was then ſpread on cloths expoſed to the ſun, that none m
be loſt, though, at the ſame time, well dried. Being thus
verted into hay, I found its weight reduced to one fourth; t
pounds of graſs had given only two pounds of hay.

Agriculturists know how many cart-loads, or truſſes, a
will produce; therefore, they may judge how many ſheep it
maintain in hay or in graſs. They have a rule, then, for pro
tioning the number of their ſheep to the quantity of paſture
of fodder with which they can ſupply them.

Having determined the quantity of ſolid food eſſential to
proper regimen of the woolled kind, I made other experim
upon theſe animals, with a view to aſcertain the time at w
they ſhould drink.

It is well known, that they ſeldom drink when fed upon f
graſs, but are in want of water when they have only dry n
Different opinions are purſued as to the proper time for wate
them. In ſome countries, they are taken to water once or t
every day; in others, not for one, two, three, four, and
five days. By the following experiments, I have endeavoure
aſcertain which of all theſe modes, ſo different from each o
is entitled to preference.

I ſhut up in a ſtable, in the depth of winter, a ſmall flock
which all the ſheep were marked with a number. They
kept night and day, without being ſuffered to quit it, and
with a mixture of ſtraw and hay, without any other alim
Each day, a ſhepherd carried in his arms, ſucceſſively, s
ſheep out of the ſtable to let them drink, in my preſence, o

a vessel, gauged at different heights; and then took them back into the stable, when they had either drank, or refused to drink.

By this method, I knew how much water the sheep had taken, when presented with it once, twice, or thrice each day, or only once in two, three, four, or five days.

Most of the sheep in this little flock passed a month in the stable without drinking. Their appetite was always the same; and they experienced no other inconvenience than that of thirst, of which they gave evident proof, by running to lick the moist lips of those carried back to the stable, on return from drinking. The results of these experiments, which I cannot here detail, led me to conclude, that sheep, with no other nourishment than dry hay, and within reach of water, could pass days without drinking; but they would take a greater quantity of water the following day, than if they had drank the evening before. This quantity increases to a certain degree, if they have been deprived of water for many days together. They are then tormented with thirst, for they are eager to get a drop of water; and, if they could find it in abundance, they would drink too plentifully for their temperament, subject as they are to effusions of serosity, which produce mortal hydatides in the brain, and the rot, a disease no less fatal.

The best plan is, to drive the flock every day to the pond, and to make it pass slowly, without stopping there, when it will be found, that the only sheep that drink will really want to drink. In countries where water is scarce, it frequently happens that the pond is far distant, and the flock cannot be driven to it without being fatigued. In this case, they may pass many days without drinking; but, when fed solely on dry meat, it must not be delayed too long. This aliment differs much from fresh grass, in consequence of the loss of moisture by drying; yet sheep take daily the same quantity of solid food, whether in grass or in hay. In the experiments before mentioned, I found their appetite perfectly equal; for they eat eight pounds of grass, or two corresponding pounds of hay, which I found to be the product of eight pounds of grass. The evaporation carried on during the making of the hay, takes off three fourths of the substance of grass in fluid particles. Thus, the sheep which eats two pounds of hay, is deprived of six pounds of liquid aliment, which it would have enjoyed by eating eight pounds of grass. It supplies a part of this deficiency by drinking about three pounds of water, when fed upon hay; but this water is not in sufficient quantity, and possesses not the same quality as the liquid of the grass evaporated in drying.

There can be no doubt, that this difference in regimen is pro-

ductive of bad effects. I shall mention some proofs of it, which are indeed too evident and too frequent.

In countries where the snow remains upon the ground for one or two months, the cattle are reduced to dry fodder, so long as it lasts: then the weaker sheep, and chiefly the lambs, the sheep of the second year, the pregnant ewes, and those in milk, languish and drop off. Shepherds denote this miserable state by saying, they *melt their fat*. They certainly grow very lean, and fall off in great numbers.

I have often reflected upon the cause of this evil, and the means of preventing it. After having prosecuted every inquiry I could think of, it appeared to me to arise solely from a change of diet too suddenly effected. In one day, the sheep are reduced from eight pounds of grass to about two pounds of dry fodder, and three pounds of water. They are thus deprived, therefore, all at once, of three eighths of their wonted nourishment; and these three eighths composed the half of the fluid part of it.

According to my experience of the quantity of water taken by sheep, it appears, that their drink can supply only one half of the liquid which grass contains more than hay. It would be dangerous to excite them to drink a greater quantity of water, because they are very subject to infiltrations. We must therefore endeavour to supply them with at least a small quantity of fresh food every day, in order to correct the bad effects resulting from dry meat. The most obvious of these bad effects appears in the third stomach, composed in the interior of a great number of membranous folds, detached from each other, although it is only from eight to ten inches in circumference when filled with air. During rumination, the food passes from the throat into this third stomach, and spreads amongst all these folds. I have there found it very frequently parched, and almost withered, in many sheep which I have dissected.

This aliment, after being ruminated, receives, in the third stomach of the sheep, and of other animals that chew the cud, a preparation for digestion, which latter takes place only in the fourth stomach. The aliment is dry in the third stomach, not only when the animal is fed solely upon dry meat, which has not furnished sufficient liquid, but also when attacked by some disease causing too great heat, and, consequently, too great evaporation of the liquids necessary to digestion. In these two cases, bad digestion, and the evils attending it, may be prevented, by giving some green food at least once a day. At all times when the ground is not covered with snow, sheep find upon it sufficient fresh food to render it unnecessary to give them any in the rack with their dry meat, in a bad season. I have often stopped in the midst of

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a flock, in fields covered with snow, where no grass whatever was to be seen. The sheep, however, having their eyes nearer to the ground, perceived the points of some leaves, and scratched with their feet to find more of the plant: they then seized it with their teeth, and sometimes pulled up the roots along with the leaves. But when the snow entirely covers the ground to a certain thickness, there is no other resource than in the plants which may be high enough to enable the sheep easily to remove the snow which covers them.

There are some kinds of cabbages, such as the *fringed cabbage*, which are very tall: they resist the frost, and their leaves contain much juice. These form an indifferent article of food for sheep in times when they are not reduced to dry meat; but, if confined to this aliment, a few of the leaves of these plants will be found sufficient to obviate its prejudicial effects.

It is difficult to have a quantity of these cabbages sufficient for numerous flocks. They require to be sown, transplanted, and watered for many days; and this culture must be repeated every year, which is too tedious and expensive for the husbandman.

Whatever advantages may attend the use of cabbage as a diet for sheep, I would not recommend this vegetable as fodder, had I not met with a species of cabbage which may be reared without sowing, without transplanting or watering. It is equally unknown to the naturalist and the agriculturist. Like the fringed cabbage, it resists the frost; and, for cattle, is preferable to it, being very easily cultivated. It may be propagated by cuttings; and it is only necessary to slip off its lateral branches, which are numerous, and plant them in the earth, to have, in a short time, new plants over the whole extent of a well cultivated field. The leaves are less than those of other cabbages; but the juice they contain is as abundant: they are equally good food for the shepherd and his flock. Some handfuls of these leaves given to a sheep will correct the bad effects of dry food.

The regimen of sheep is one of the most important branches of veterinary medicine. This science is to be established only by well-founded experience, with observation and experiment frequently repeated on these animals. An intimate acquaintance with them in their natural state is necessary, before attempting to cure their diseases.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I AM lately arrived in this ancient kingdom of Scotland, and have had uncommon pleasure in reading your useful and instructing

publication; but with your own observations I am particularly pleased. Indeed, where I do not meet with some of them on the sentiments of others, I am somewhat disappointed. Long, Sir, may you live to promote useful knowledge, and to instruct divided farmers; for I candidly confess, that much as I have conversed with farmers, both in England and Scotland, I seldom find two of them professionally of one mind.

The strictures on that notorious publication, 'Hints to Agriculturists, by William Dickenson, Esq.' are perfectly just, and replete with information, even to the weakest capacity; and, no doubt, their appearance in public will prevent much unnecessary trouble to yourself. From the profound knowledge of that gentleman in the art of chemistry, as well as pharmacy, I cannot help expressing a curiosity to see his publication; conscious that, if it did me no good, it should do me no harm, which probably it might to others. It is evident to me, Mr Conductor, that when William was studying this masterly performance, there must have been an equivocal generation of ideas floating confusedly in his brain. 'A little learning is a dangerous thing—Drink deep, or taste not the Castalian stream.' But Mr Dickenson is not the only chemical professor in your Magazine: I can discern a number of others, some of whom have as little occasion for a trumpeter as he. Nay, some of your correspondents go so far as to tell us, that the race of practical farmers, now-a-days, are so highly educated, and so well versed in the principles of chemistry and pharmacy, &c. that, were our ancestors to rise from their graves, it would only be to show the world their consummate ignorance, compared with the erudition of our modern gentlemen agriculturists. How these gentlemen come so very soon to be connoisseurs in Greek, Latin, chemistry, pharmacy, &c. is to me not a little astonishing. After a classical education, and with abilities like other men, I had the good fortune to study chemistry three sessions successively under that very able philosopher Dr Joseph Black, then Professor of that art in the University of Edinburgh; and, even after that period, I found but too many intricacies. Chemistry is an art not easily attained: and Greek and Latin are languages that require long study and much attention, and are primarily and peculiarly adapted to the study of that art. The qualifications of your correspondent Sir George Mackenzie as a chemist, I am ignorant of; but make no doubt of the Baronet's abilities. Those of Mr Low of Annfield are better known; nor do I believe that gentleman will publicly claim much acquaintance with that profession. By the by, I observe a clerical character, in one of your numbers, much

much employed in analyzing lime-craigs. In my humble opinion, his reverence would be much better employed in analyzing the Old and New Testament: in this, however, he may take his mind.

I observe in your Magazine, vol. VII., a letter from a Fife-shire Ploughman, as he styles himself; and, excepting from my old friend Pol-Œconomicus, a better wrote letter is not to be found in all your publication, nor one that contains more sterling sense. He very justly observes the impropriety of Latin phrases, as they are not understood by one in fifty of your readers; and humbly informs us, that it never was in his master's power to enlighten his mind in the knowledge even of the rudiments of the Latin tongue, notwithstanding the many severe drubbings he got from him. I therefore venture to say, and I dare to say the Fife-shire Ploughman will join me in affirming, that although these arts, languages, and scientific or rather technical terms were even acquired by all the operative farmers in Great Britain, not one would reap the least benefit from any of them.

One of your correspondents (*Coquetus* by name), speaking of the improvement of land, and the effect that streightening ridges hath on the quality of the grain, tells you he knows not how to account for it, nor is he concerned to inquire: it is sufficient for him to be assured, from experience, that it really is the case.

The same opinion seems to have influenced the reviewer of Mr Findlater's Survey of the County of Peebles, who acknowledges, that inquiries about knowledge of the agents of vegetation cannot benefit the husbandman, though they may, on many occasions, lead him astray. He goes still further, and assures us, that if the earth is enriched with generous manures,—if superfluous water is removed,—if noxious weeds are destroyed, and shelter afforded,—then all that man is capable of executing is performed; and adds, that, in the knowledge of these things, the art if not the science of agriculture may be said to consist; and that the enlightened farmer, who acts according to these principles, knows more of real agriculture than the most scientific philosopher.

I now appeal to yourself, Mr Conductor, and beg to know, whether the above knowledge may or may not be acquired without the acquaintance of Greek and Latin, and a dabbling in chemistry? Clean land, properly dunged, will, I believe, seldom fail of producing a good crop: and there are few farmers but know good dung from bad; and that is sufficient. Abstract philosophy, &c. the farmer hath no manner of concern with; or, if he has, I much fear he will soon be left in the labyrinth of uncertainty, like a young seaman of my acquaintance, who boasted of his nautical

abilities, from a superior knowledge in the theory of navigation but behold him on shipboard, in a tempest, startled at the mos trifling difficulty, while honest *Jack* saw nothing to discommod him.

Now, as to those sons of the plough, (I mean such as ma rent a farm from 100*l.* to 1000*l.* *per annum*), I can see n real advantage accruing to them from an education beyond th bounds of good English, writing and arithmetic; and I as every mind unprejudiced, if any more is necessary. However should any of your enlightened knights of the *flail* deem this to limited for their capacities, I would recommend to them the stud of anatomy;—to know the number of bones in a horse or cow;—to discriminate between the skeleton of a cock and a hen —the action and counteraction of the different muscles would b of much importance in determining the depth of the plough-fur row;—and, above all things, a thorough knowledge of the ner vous and sanguiferous system, in order to ascertain the precis quantity of oats to each horse, conform to his age, flow of ani mal spirits, impetus of blood, &c. &c. I need not add the be nefit that would accrue from a stop-watch. With these accom plishments, which he might acquire in a few days, he would ap pear as much qualified in surgery, as many of your correspondent are in the art of chemistry.

I have already said, that of late I had an opportunity of visit ing and conversing with many of the farmers in Scotland, parti cularly those to the north of the river Forth; and, in general found them rather illiterate than otherwise. Their language i ungrammatical—not syntax; their writing by no means correct neither do many of them pretend to more than their mothe tongue. I speak my mind without reserve, being influenced b no motive either for or against those useful men,—men, M Conductor, whom I as much respect as you do yourself: An why may they not be good men; good christians; good farm ers; natural philosophers; and, I will add, to their honou good *soldiers*—without the knowledge of Greek, Latin, Frenc and chemistry, botany, the materia medica, and the Devil know what?

In my juvenile days, I well recollect of a gentleman, a son o the church, who vaunted so much on his mode of cropping, an the enormous returns he had from two or three acres of rich gleb land, that he had ambition enough to make purchase of a litt farm,—nothing doubting, from his abilities in agriculture, but i would bring forth an hundred fold. For a number of years di this great master of arts struggle with his farm; till, being ob

lige

liged to borrow money to pay the last instalment, and finding it a losing concern, he was obliged to let it; which was only effected after publishing it in almost every newspaper, and being for nearly one whole year upon half of the church-doors in the county.

Before I conclude, let me observe, that, on a tour through a certain part of Scotland last summer, with an acquaintance, we alighted at the house of a friend; and, after refreshing ourselves, took a walk round his farm. It was the beginning of harvest; and I was delighted in viewing his excellent crop;—not one half acre had misgiven;—wheat, barley, oats, all so full, as to be inclining to lye over. He assured us, that although the soil was not of best quality, yet he seldom or ever missed a crop. His mode of cropping I really do not well recollect; but he was an advocate in supporting the fallow, turnip and liming plan. He seemed to be an intelligent man; and, we were of opinion, a real systematic agriculturist. My acquaintance informed me, that he was an illiterate man; and, not many years ago, he had known him in the capacity of a farmer's servant; but that, from rigid economy, conjoined with the industry of an excellent wife, they had brought up a numerous family, and at last leased this beautiful farm, where every thing seemed to prosper and flourish under them.

Sine industria nemo vir magnus unquam fuit. I humbly beg pardon for this trespass, which I did not intend: Believe me, you shall have no more of my Latin.

Adjoining to this farm was another excellent one, possessed by a very high-spirited young gentleman, who, to my certain knowledge, had obtained an education inferior to none in Scotland. He was what we may call a finished scholar; and had turned to be husbandman from motives which I am not at liberty to mention. Be that as it may, on our passing, he was behind his reapers in the field, amusing himself with a large *pussy* in his arms; the labourers being employed in cutting down a field of oats, of which I can be well justified in saying, that one cart could with ease have brought home to the barn-yard upwards of one acre at once, thistles excepted, of which there was an abundant crop; and, at that season, I have no doubt, would multiply sufficiently by another year, if not prevented.

Thus have I endeavoured to prove the superfluity of a learned education to practical agriculturists, beyond the limits of English, writing and arithmetic; not to mention the loss of time, which undoubtedly might be employed to much better purpose.

Should any of those hints meet with your approbation, I shall consider myself highly rewarded; and probably you may not be

long of hearing from me on another subject. Wishing you every success, I am, Sir, your respectful humble servant,

July 1808. TRANSATLANTICUS.

FOR THE FARMER'S MAGAZINE.

On Horse Rakes for gathering Hay.

THE attention of a great proportion of every circle in society has been, of late years, turned to the improvements of agriculture, and to the invention of new machinery and novel implements, for facilitating and simplifying the various operations connected with rural economy. The simplicity and probable utility of the following agricultural instrument, may be found of much importance to the farming interest.

It is well known to all agriculturists, that light bodies, such as hay, are gathered together at a great expense and labour; and that frequently the crop is lost for want of hands to secure it against heavy rains; which was severely felt by the loss of immense quantities of hay last season. The writer of this proposes, as a substitute for manual raking, that the same shall be performed by a horse, attended by a lad of fifteen or sixteen years of age. A rake is to be constructed, suitable to the strength of the horse; and there seems no difficulty at all in the projection of an instrument, which will gather more hay, and in a more perfect manner, in a given time, than any dozen of hands employed in the common way.

The form of the instrument which it is believed would answer the purpose, to be of the segment of a circle, forty-five inches long, of cast metal, with wooden teeth of a sufficient length, perhaps six inches long; or the whole to be made of wood, in the same manner and form—only a sufficient weight, in the latter case, to be fixed above the head of the rake, so as it may be proportioned to the operative execution of the instrument, for clearing and cleaning the hay in a perfect manner as the horse moves forward. Whenever the instrument has a quantity equal to its power, it is only necessary for the lad in attendance to lift it, and the horse moves on as before.

The projector acknowledges, that owing to the novelty of the instrument, it may be found imperfect and objectionable; but the form can be constructed in such a variety of ways, and with such simplicity and cheapness, as to answer the purpose to a certainty. For instance, two or three rakes may be chained together,—one moving to the right, another to the left, and a third in the middle, and the horse drawing the whole the same as one.

These

These ideas on the utility and substitution of animal for manual labour in the hay harvest, is a subject of importance and economy. There is not the smallest doubt but the ingenuity of some of your readers will improve on the rough sketch suggested; and instruct, by experimental procedure, whether or not it will be attended with the advantages anticipated.

I entertain a notion that an iron plough would prove much superior to any other; for, if made equally light, and properly constructed, it would keep the ground better, and be easier managed by the solidity of its component parts, while the upper works would never in the smallest degree be injured by all the varieties of changeable weather. Wood is excessively high, and iron uncommonly low at this period; it is therefore apprehended that the iron plough would not much exceed in price the timber part of the machine now in use, particularly when it is known that iron, in bars of any dimensions, may be had at Wilsontown iron works, at and below 2s. 6d. per stone English.

OSIRIS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on Mr Laurie's Letter on the Depopulation of the Highlands.

SIR, *Glasgow, 22d March*, 1808.

I AM much afraid that the remarks I am now to send you on a paper in your Magazine for February 1808, entitled, 'Hints as to the means of preventing the Depopulation of the Highlands,' may, from their great length, be tiresome to many of your readers. Besides, I am exceedingly averse to occupying so much of the room of your publication, when there must be a great deal of interesting matter pressing for admission from other quarters. The importance, however, of the subject which the essay professes to discuss, and the very full hearing that Mr Laurie has met with from you, will, I trust, be some apology for trespassing so far upon your patience, and that of your readers.

I am not at all pleased with the title of the paper, 'Hints as to the Means of preventing the *Depopulation* of the Highlands.' The word 'depopulation' has a very ugly meaning, and conveys to the mind of the reader the horrible idea of every man, woman and child, in the Highlands, having been turned adrift, naked and starving, to the peltings of a pitiless world. One would imagine, that not a single aboriginal inhabitant had been left to mourn over the fall of that unhappy country; and that their

place

place had been filled up by an emigration of equal magn
from the South. Mr Laurie, however, in traversing the
of Loch Tay, and other parts of the Highlands, must hav
frequent opportunities of remarking a population that woul
disgrace many of the more fertile spots of the Lowlands.
unwilling, therefore, to suppose that this gentleman has
travelled the country with a handkerchief about his eye
what is worse, has had any intention of misrepresenting th
state of the case to the public. I am rather disposed to att
the inaccuracy of the expression to the circumstance of no
ing sufficiently attended to its meaning; and that, when he
use of the word 'depopulation,' he had in his eye the ide
is attached to that of 'emigration.' This last effect, we
very well, has taken place in most parts of the Highlands
we also know that the other has never yet, nor ever will ha
in that or any other quarter of the civilized world. In fai
too, Mr Laurie should have avoided the use of an expressio
culated to throw odium upon a class of people, who, equall
friends of their country, do not contemplate the event of em
tions from the Highlands with the same melancholy presage
he and many others do. It is too much the cry of a party
we all know, that when the bloodhounds of persecution are
let loose, there is an end to all deliberate and dispassionat
cussion.

He says (addressing himself to Sir John Sinclair), 'In
mon with you, and every real friend of the British em
I cannot but lament the depopulation that has taken
in the Highlands. I do not allude merely to the num
loss of population, though this is a thing in itself suffi
ly affecting. It is the particular character of the people
are thus expatriated, and the manner in which this takes
that makes the matter appear to me most affecting. A brav
robust race of men, who have possessed and defended their n
tains from time immemorial,—whose hearts burn with the
enthusiastic loyalty,—whose candour, hospitality, good
and strict morality, in these degenerate times, exceed ever
comium, and who are daily giving proofs of their heroism
challenge the applause of the world;—these men are driven
their dearly beloved native mountains, and compelled to s
home in distant, perhaps on hostile shores, at a time whe
chief want that our country acknowledges, is that of a suff
number of such brave sons to meet its foes. And all this is
in order to make room for a few solitary strangers, who
themselves under obligations to pay their landlords a nom
higher rent for the soil, which the changing circumstances
country must enable them to discharge; otherwise, from
magni

magnitude, these engagements must remain unfulfilled. To these individuals, hundreds of families with claims on their landlord, which, to the ear of equity and humanity, would appear irresistible, are, by that landlord, for the sake of a petty, apparent pecuniary advantage, obliged to give way. Yet this advantage, whether real or imaginary, is the only benefit that either the landlord or the country can possibly receive for the inestimable and unascertained sacrifices that are thus made. We read with horror of the tyranny of William Rufus, who depopulated a district for selfish purposes, in days of darkness and cruelty; but what is this to the crime of depopulating ten counties, in an age of high civilization, under every aggravating circumstance, and depriving the kingdom of those stamina which constitute its greatness?'

I can assure Mr Laurie, that I am as warm a friend to the British empire as he, or Sir John Sinclair, or any other Highlandman can possibly be. This gentleman would insinuate, that all who do not think with him upon the subject of Highland emigration, are enemies to their country; because, if all the real friends lament that circumstance, those who do not, must be inimical to its true interests. I do not know if Mr Laurie ever proceeded in a college education so far as the logic class; but if he did, he has either now totally forgot all that he then imbibed, or, like many of his contemporaries, learnt nothing at all. The syllogism of which he has attempted an outline, is as lame and miserable as ever dropt from the pen of the merest tyro in the art of reasoning. For my own part, I am charitable enough to believe, that both those who agree with, and those who differ from me, upon this national question, are equally animated by a sincere love of their country; and, in like manner, Mr Laurie ought to have opened his paper with this liberal sentiment. Although, however, both of us wish well to our native soil, I am of opinion, that the measures recommended by our mutual patriotism, are not equally well calculated to further its prosperity. I have not the smallest hesitation in saying, that the views which are entertained by the party of whom I profess to be an humble follower, are the best suited to promote the welfare of the Highlands in particular, and of Great Britain in general. It would be premature, however, to enter upon the discussion of this question at present, as it will be treated of by and by in its proper place. I throw out these observations, merely to put the reader upon his guard against believing that all those who fail to lament the late emigrations from the North, are, of necessity, enemies to their country.

The picture which this gentleman has drawn of the loss sustained

tained by the nation, in consequence of the emigration of a pa
of its inhabitants, and the hardships of the case of these poo
people, is greatly overcharged. The canvas upon which he h
been at work, is daubed in every possible way to produce stag
effect, but without adherence to reality, in all the touches of th
pencil. I believe the Highlanders to be brave and robust, lik
all other inhabitants of a cold and upland country. No doub
they have been in possession of their bleak and barren mountair
from the beginning of time; but I cannot give them much cr
dit for defending a property, which, from its poverty, could a
tract so little of the cupidity of invaders. Their loyalty may b
unquestionable; but it is the silly humiliation of a vassal to h
feudal superior, not the enlightened homage which a sovereig
receives from free men. I have myself seen a little of the High
lands; but I was not so fortunate as to meet with the candou
which this gentleman represents to be one of the characteristi
of its inhabitants. There is something in the moral and politic
condition of the Highlander, that, in my humble opinion, mus
as long as that state exists, forbid the exercise of that virtue.
is a plant which grows only in a good soil, and under a happ
sky. The moral qualities of the individual must be of a high
kind, and the political state of the society in which he lives fu
ther advanced towards a state of freedom, than what at presen
exists in the Highlands, before its inhabitants can be remarkab
for their candour. The poor miserable wretch who pines on th
solitary island of Iona, is by much too debased in his moral an
political condition, even to exercise a virtue that would withe
and die in a much better region. Savages have always been ho
pitable to those who have had the misfortune or the curiosity t
visit them, and, of course, the Highlanders also. I certainl
would not withhold my praise altogether from the motive whic
opens the door of the Highlander to strangers; but when th
face of a civilized person must be such a treat to the inhabitan
of that distant world, I cannot help thinking that there is a litt
selfishness in this display of hospitality. As the Highlands com
to be better peopled, and the face of a stranger less a rarity, th
virtue will grow colder and colder; although the people may, a
same time, be as virtuous in all other respects, as ever they wer
in the rudest periods. I should be sorry to say any thing disr
spectful of the Highlanders; but I am apt to think, that M
Laurie, from his anxiety to establish the good sense of thes
people, is very deficient in that necessary article. How is
possible, with all the obstinate adherence to old prejudice
and errors, which a state of ignorance never fails to engende
and the very few opportunities within their reach of impro
in

ing their intellectual powers, that they can be noted for a qualification which people in much more favourable situations seldom possess? Their morality may, for aught I know, be strict; but, having few temptations to withstand, there is but little room for the virtue of self-denial. A man cannot well be a thief where there is nothing to steal; and the chastity of a female is in little danger among mountains, where want and cold benumb all the softer feelings of the man. But to be virtuous amidst all the luxuries and temptations of London or Paris, would, I am afraid, be too much even for the sluggish blood of a Highlander. Where morality is the effect of local accident, as it happens to be in the Highlands, it can derive but little praise from those who are in the habit of taking an enlightened view of the subject. The heroism of the Highlanders has been trumpeted in the ears of the public ever since the commencement of the present war; and the distinguished appearances they made on the sands of Egypt and the plains of Maida are proofs of the fact. But why, in the name of Justice, cry up perpetually the bravery of one particular set of men, and, in the fulness of Highland pride, be silent upon the equal courage of other corps? There is, moreover, but little policy in all this; for, had not Sir John Sinclair most indiscreetly asserted, that the colours of the Invincibles were taken by a namesake serjeant of the 42d, the glory would not have been contested by a private in a foreign regiment. It is unwise sometimes to push an argument too far—to be overgreedy of praise, as well as of money. But, be all these things as they may, what are they to the point at issue,—the improvement of the Highlands? The inhabitants of that country may be brave, loyal, possessed of candour, good sense and hospitality; but still these facts go not a single inch towards proving that the country suffers more by their emigration than by the introduction of their southern neighbours. I may admit the truth of every one of these assertions; but they are totally irrelevant to the question which Mr Laurie professes to discuss. This mode of treating the matter is like trying a thief for murder: the culprit may no doubt be hanged with great propriety for stealing; but it would be rather irregular to take away his life for the alleged commission of the greater crime.

In describing the loss which the country (he ought to have said the Highlands) suffers by the emigration of these people, Mr Laurie exhausts all the stores of his fertile imagination. He does not merely colour too much: the picture is not simply a favourable likeness;—in many respects, it does not at all resemble the original. No man will be hardy enough to deny the emigration of

the

the Highlanders to be injurious to the country; and cou
have been retained, consistently with the present plans
provement, they would have been permitted to remai
there is a wonderful difference between a partial and a to
and this gentleman would fain make his readers believe, t
country loses every thing, and gains nothing, by the em
of these people. If Mr Laurie has exaggerated the inju
tained by this change, he fritters away to nothing the
tages which may arise to the Highlands by the intro
of a new set of people. By his account, the Highland
get, in return for the loss of their total population, onl
solitary strangers; and the landlords are to get merely
er nominal rent for the ground that has been abandoned.
does Mr Laurie call this fair and honest, in argument;
a reader put the smallest faith in the reasoning or fac
man who pays so little regard to truth and candour? H
be aware of the hopes which are entertained by many en
ed men, of the great advantages that are likely to accrue
Highlands, and to the country at large, from the prese
of improvement; and though he may be at liberty to consic
as visionary, he ought to have been candid enough to hav
these views to the reader. With many others, in whose opin
proud to coincide, I apprehend that the Highlands are mo
to be brought into a state of high and rapid improvement b
ern industry, than by the pitiful exertions of the aborigina
tants. It is remarkable, that civilization has uniformly pr
from south to north, and barbarism from north to south.
always gone the one way, and death the other. In these
strangers, as they are contemptuously called, I see the oi
to pour balm upon a helpless country;—the power that i
vate it from a state of vile and stupid barbarism, to a
great wealth and prosperity. The means that are empl
accomplish so great an end, are apparently trifling; but
and knowledge, when properly directed, are of themselv
cient to change the face of the world. As poverty and ig
come to be banished from the Highlands, and capital an
ledge spread themselves over that country, its improvem
proceed exactly in the *ratio* that the negative bears to the
quality. I might expatiate upon this subject at great leng
it not taking up the room of your excellent Magazine; b
single fact is better than a thousand arguments, I have ju
fer Mr Laurie, and others of his persuasion, to the cou
East Lothian and Berwick, as a living and practical illustr
the truth of the theory. Why will this gentleman say, t
new incomers are to pay their landlords merely a nomina

rent, when it is notorious that the rental of these proprietors has been in many cases tripled, and even in some instances quadrupled? Is this advance merely nominal, or is there no difference between the sum of 300*l.* and that of 1200*l.*? This is worse than mere quibbling;—it is a downright misrepresentation of facts. Mr Laurie, or, what is more to the purpose, the Highland proprietors, need not be afraid of the new tenants being unable to fulfil their engagements. Their greater capital and knowledge will enable them to perform what, to the silly and weak mind of this gentleman, may appear impossible. The advantages which I have stated as likely to arise to the Highlands from the introduction into it of superior knowledge and capital, he affects to call imaginary; and the injury which it will sustain by the emigration of ignorance and poverty, most serious and alarming. It is very singular to hear a man capable of spelling, or of putting two words together, committing such drivelling nonsense to paper. It is really the first time I ever heard that a country was to be ruined by capital and knowledge; and, on the other hand, improved by ignorance and want. Money, we all know, makes money; but *ex nihilo nihil fit.* What will a reader think of such arguments, or of the cause which they pretend to uphold?

'I know' (says he) 'that the old system of farming in the Highlands was injurious to the landlord, as well as to the tenant; and that the Highlanders were not formerly prone to change their habits: but I am also satisfied, that the old system was not only capable of melioration, and the Highlander as much qualified to reform his habits as any other man, in so far as they were really bad, but that the system formerly established, when accelerated, and the Highlander, when informed and disciplined, are the only means by which the Highlands can ever be made useful to the proprietors, and to the country at large; and that the position in which these were formerly placed, was that which prepared all parties best for the exigencies arising from the changing circumstances of the country.'

I am glad to find that this gentleman considers the old system of farming in the Highlands as injurious both to landlord and tenant; and that, in former times, the inhabitants themselves were averse to any alteration in their old habits. He has begun now to see things in a proper point of view; and by and by, I make not the smallest doubt but he will be sensible of the error of his present ways. I suspect much, however, that, had not the sorry agriculture of these people been exposed to public ridicule, this gentleman would, at this very moment, have been an admirer of the miserable farming of that country. He is such a blind lover, that he is not capable of seeing, even with the assist-

ance of a pair of spectacles, a wart upon the nose of his mis
A change of habits is repugnant to man in a savage state:
Mr Laurie may be assured, that the Highlander would at thi
have been clinging with as much fervour to old prejudic
ever, were it not for the introduction into the country of
Southern neighbours. A competition has taken place bet
the people of the south and north for the future occupation
Highlands; and the latter have discovered, when too late,
they must be open to every change for the better, or give w
strangers. Truly this gentleman is most candid in admittin
old system to be capable of melioration; and that the Highla
themselves are not perfect creatures. I cannot, however, agree
him in thinking these people as well qualified to reform bad
as any other; nor can I consider the old system, when a
brushed up, and the Highlander himself when better informe
be the only means of making that part of the kingdom use
the proprietors and the public at large. It is considered, I be
by moralists, to be no easy matter to turn over a new leaf
that so important a change as the reformation of bad habits c
be effected, except in very favourable circumstances. A man
be in some measure enlightened, before he can be sensible
imperfections; and still more so, before he can set rightly to
about reforming them. I leave it with your readers to dete
with themselves, how far the Highlander, with all the obs
attachment to old prejudices, which ignorance never fails to g
der, is as competent to the task of self-reformation as others
better opportunities of being sensible of their imperfections
of the means by which they may be amended. I very free
mit, that, if the old system be ameliorated *ad infinitum*, ar
native himself as well informed as his more southern neigh
the country may then be rendered useful to individuals a
the public. But how are these things to be accomplished
by the introduction of another and a better people from the So
If, into the old stale leaven of the Highlands, be poured a
of the low country spirit, the mass will become enlivene
will be like infusing new life into a breathless corpse.

'There can, I think, (says he) be no doubt but that some
change in the appropriation of lands in the Highlands will
take place. The quantity of sheep and cattle that can be m
ed with care and with advantage by one farmer and his reta
generally natives of a more genial soil, begins now to a
much smaller than calculators expected. Besides this, th
vantage of joining the culture of potatoes, turnips, and
roots, to the breeding system, and the opportunity which
improveable, but now neglected spots, afford of doing this

a profitable rotation of peas, oats, barley and grass, are now become more manifest, and will tend still more to diminish the size of farms, and also to make a considerable addition of hands necessary for the country, provided, however, that the course of improvement is not arrested. When the Highlanders have been expelled, whence will this want of hands be supplied? Will Lowlanders or Irishmen leave easy and productive employments, in a flourishing country suited to their habits, and travel over some hundred miles of rude districts for work, where they must submit to hardships and privations that are intolerable to them? Would they do all this for the scanty recompense that the Highlander would accept of for his labour? Would they, after all, be sufficiently robust for the hardships that behoved to be imposed on them? Such expectations as these are altogether chimerical. Either there must be no further improvement in the Highlands, after the antient race have left it, or a vast expense must be incurred by the landlord, before these improvements can be effected, in preparing accommodations and conveniences for his expected assistants. These expenses would soon be found to exceed the whole amount of that *bonus* he had received from his new incomer; and it might probably happen, after a variety of experiments begun and reiterated, and a great deal of expense, that the presence of the Highlander alone could accomplish his object."

In passing from a state of slavery to that of freedom, nations have frequently overshot the mark; and, in like manner, Highland proprietors, in their ardour for amelioration, may perhaps push matters a little too far. It is impossible, in the infancy of improvement, exactly to hit the proper medium; and, in all probability, these gentlemen will err in the extreme of attempting too much. In that case, another change in the appropriation of land will no doubt take place; and things will at length settle in a proper temperature. The circumstance, however, of their having gone too far, even if it were true, is no argument against going at all; and, upon finding they have erred in this respect, they have only to retrace their steps to a certain extent. Although the change may have been too great, still, that is no valid objection to a change at all. It is very possible that Highland proprietors may have overrated the advantages which they expected, in their too sanguine moments, to arise from the consolidation of small into large farms; but, that they will be benefited by this revolution in agriculture, there cannot be the smallest doubt. The disappointment in that particular never can be so great as to induce them again to relapse into the state of ignorance and barbarism from which they had so lately emerged.

Unless, therefore, Mr Laurie can show that the old system w in all respects equal to the new, the latter will still be the favou ite, though not so advantageous as was at one time expecte Although I earn only a sixpence, when I flattered myself with shilling; still I will follow that particular trade in preference another, in which not a farthing can possibly be made. I a rather disposed to think, that by and by farms will be reduced point of size, for the reasons stated by that gentleman; an when that event happens, he need be under no apprehensions a want of hands to perform the necessary operations. For som time, at least, the present state of things will continue; and another change be to take place, an additional population w come into the world, from the encouragement given to those ready in existence. If the agriculture of the country be impro ing, he may rest assured that the population will augment exa ly in proportion to the demand there is for labourers. It is tru that people cannot be hatched in an oven like chickens; but n ther can these changes, which required the additional number hands, take place as suddenly and instantaneously. If I be w founded in what I have said, there can be no occasion for a emigration into the Highlands of Lowlanders or Irish. But, any rate, I do not see the hardships or privations which the people will suffer by holding the plough in the Highlands mo than in Lanarkshire; and I cannot figure any difference in dei ing the ground in the 54th or 60th degree of north latitude. going to the extreme parts of the north country, they will doubt have to undergo the fatigue of travelling two or three hu dred miles: but I can see no further hardship in the migratio and when the journey is once performed, it is not to do over gain. At present, it may be very true, that the wages of t Highlanders are small; and for no other reason, but that th labour is in little demand. When their country, however, com to be improved, a demand for labourers will necessarily take plac and the Highlander, learning his own value, will cease to wo for the trifling hire he has been accustomed to. Nothing d presses the wages of the Highlander but the low state of t country; and, if it should improve, the wages of the labou will increase, no matter whether he be a Lowlander or nati I cannot comprehend how and in what way the labour of a Hig lander should be a whit more severe than that of one in the Sou It occurs to me, that following the plough or digging the grou would bring just the same quantity of sweat upon his brow in bo places. The Highlands are not unhealthy; and as labourers w work in that part of the island the same number of hours in t day as in this, the fatigue must, in both situations, be the sa

to the individual. Mr Laurie, therefore, need be under no apprehension of a stop being put to the further improvement of the Highlands; or that the landed gentlemen will be put to a great deal of extra expense in making these improvements, on account of the emigration that has lately taken place from that country.

I am yours, &c.

A CONSTANT READER.

(To be continued.)

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

THE following ſhort eſſay on ſeveral agricultural ſubjects lately fell in my way; and, though it appears to be of an ancient date, yet, as much good ſenſe is contained therein, I truſt it deſerves to be preſerved, and, on the whole, may not be unacceptable to your readers. On theſe accounts, I have uſed the freedom of tranſmitting it to you, hoping the trouble given will be readily excuſed.

I am yours, &c.

A FRIEND TO AGRICULTURE.

The Farmer's Pocket Companion.

Earths.—There are five earths, *viz.* 1ſt, Sandy.—2d, Clay.—3d, Magneſia.—4th, Earth of allum.—5th, Calcareous earth. The three laſt are called abſorbent earths. The magneſia and earth of allum are ſeldom found in ſoils uncombined with an acid ſubſtance.

The calcareous earths are *marl* of all ſorts, *limeſtone*, *chalk*, marble; and the earth formed of the bodies of all animals, ſometimes called animal earth. Moſt calcareous earths are ſuppoſed to be formed originally from ſhells.

Sand, clay and water, form within a mere trifle of what we call earth or ſoil; for any other ingredients that may be therein, are in a mighty ſmall proportion to the ſand, clay and water: Theſe are the great component parts, whatever colour or texture the ſoil may happen to have.

Mucilage.—Mucilage is a ſubſtance which is converted into the nouriſhment of all plants whatſoever: it is formed from the putrefaction of animal or vegetable ſubſtances: it is formed alſo from dung; from dew; or rain-water putrefied. Plants, while their leaves flouriſh, diſcharge juices from their roots capable of being converted into a mucilage. The ſucculent plants, ſuch as peas, beans, turnip, cabbage, &c. yield much matter for mucilage to the ground. Quicklime, and rolling the ground with a heavy roller, deſtroy numberleſs inſects, which afterwards putrefy, and yield matter for mucilage.

Mucilaginous juices are of two kinds;—one, when diſſolved in water, forms a ſort of jelly, and is an immediate manure: moſt animal ſubſtances are of this ſort. The other kind, diſſolved in water, makes a gummy liquid as ſugar does. This kind muſt putrefy before it becomes a manure: moſt vegetable ſubſtances are of this latter kind.

Putrefaction has two ſtages. The firſt converts animal or vegetable ſubſtances into a mucilage;—the ſecond converts that mucilage into one or more ſpecies of ſalt.

How marl or lime benefit or exhaust land.—Marl, lime, or another calcareous earth applied to land, acts in this manner.—They haſten the putrefaction of all putreſcible ſubſtances in a ſoil; conſequently, if there be not added at leaſt a proportional quantity of dung, well mixed, containing mucilage, they muſt infallibly exhauſt land; for they convert all the putreſcible matter therein to mucilage much ſooner than it would be otherwiſe converted. This will at firſt make the land produce much greater crops than uſual, there being ſo much additional food prepared for the plants: but after one, two, or three years at moſt, thoſe heavy crops will have conſumed moſt part, if not all the mucilage; and the little that may remain is converted into ſalts by the ſecond ſtage of putrefaction as above mentioned; which ſalts, in a little time, are rendered of no effect: or, if they have any effects, they are hurtful to vegetation, if without mucilage; and by this means, the ſoil become quite exhauſted, and a mere *caput mortuum*. Another benefit lime, &c. yield to land, is, that if there be any iron, copper or ſulphur (which are poiſonous to plants), diſſolved in the acid juice of the ſoils, lime, marl, &c. will attract that acid, and let go the iron, &c. which, when become ſolid in a heap, can do no harm to land.

The remedy for land exhausted by lime, &c.—Plough the land as deep as poſſible, ſo as to bring up a new body of mould before winter; then *fallow* it well the enſuing ſummer and autumn, that every part of it may be expoſed to the winter and ſummer air; dung it ſtrongly; then ſow a crop of theſe plants that yield moſt mucilaginous matter (as above mentioned); and before their leaves have done flouriſhing, plough in that crop. If this be done exactly as here deſcribed, the land will acquire a new ſtock of nouriſhment, and come into good heart again.

Properties of mucilage.—Diſſolved in water, and applied to plants, it makes them grow luxuriant. In a moiſt ſoil, it jellifies the water, and prevents it from ſoaking through the ſides of the roots of plants. In a dry ſoil, it prevents the water from being exhaled: it gives tenacity to a ſandy ſoil, and friability to a clay ſoil; it is converted into the juices of plants, and nouriſhes them

Proportion

Proportianal parts of a good soil.—It is presumed they may be as follow. Either one fourth sand, and three fourths clay;—or, three fourths sand, and one clay: This is including water, calcareous earth, mucilage, salts, &c. in the mass of earth you examine.

For instance, in 400 grains of good soil, there may be,

Sand.	*Clay.*	*Water.*	*Calc. Earth.*	*Mucilage.*	*Total.*
73 or 219	219 or 73	— 100	— 7	— 1	— 400.

N. B. The quantity of mucilage, to do real good to a soil, must bear a certain proportion to the quantity of water, as in the above instance there is *one* grain of mucilage to a hundred grains of water. Hence observe the necessity of thoroughly draining land;—for, if there be the greatest quantity possible of mucilage in your soil, yet, if the water should exceed its due proportion, all the mucilage is lost, and of no effect, by the mucilage not having the power to give the necessary degree of tenacity and consistence to the water.

Manures are of two kinds.—One adds nourishment to the soil, as all animal and vegetable putrescible substances from whence mucilage can be found. The other gives no nourishment to the soil, but forces it, by preparing the nourishment already there.

Forcing manures are of two kinds. One resists putrefaction, the other forwards it. That which resists, is, several sorts of salt in the ashes of burnt vegetables, in soot, dung of fowls, some in horse dung, if it be not too putrid, and in sea-water, &c.; also quicklime is a resister of putrefaction. The way in which these act, is to kill the weak fibres of plants, and thereby force them to shoot out stronger ones: they also facilitate the digestion of plants;—they dissolve in water, and prevent it from evaporating too easily;—they destroy insects.

The other sort of forcing manures which forward putrefaction, are certain salts formed from calcareous earth, and spirit of sea-salt, or oil of vitriol. All marl or limestone, six or eight months after being burnt, forward putrefaction, and turn all putrescible matter in a soil into a mucilage; likewise dung over-putrid is a forcing manure, that forwards putrefaction from the salt in it.

N. B. Lime, when burnt, discharges all its fixed air; but, after five or six months, it imbibes again the fixed air, and reverts to its former state of unburnt lime.

From what has been said with respect to the action of marl, and all calcareous earths, it will plainly appear, that if there be little or no putrescible matter in a soil to convert into mucilage, it can have no effect at all (except to prevent the poisonous effects of metal) on the land.

Fermentations in a dunghill.—Salts are not converted into t nouriſhments of plants as mucilage is;—the richer the ſoil, t more effect it will have. As to all acid and metallic ſalts, a ſalt of the earth of allum, they are poiſonous to plants. Ferme tations in a dunghill are five. The 1*st* makes the juices ſweet;- the 2*d* makes them ſpirituous like wine;—the 3*d*, ſour like vin gar;—the 4*th* and 5*th* are of the putrefactive kind above mentio ed. During the three firſt, the dunghill heats; but when the 4*t* or mucilaginous putrefaction begins, the mucilage forms, and th dunghill grows cold (that is the proper moment for laying th dung upon the land, though it is better to lay it on too ſoon tha too late): After this, the laſt fermentation begins, in which th mucilage is converted into ſalts. Great care ſhould be taken, b frequently mixing the whole maſs of dung well together, that every part of it may, as far as poſſible, be in the ſame ſtage of fe mentation, leſt ſome ſhould arrive at the laſt ſtage, viz. the ſalt before the other parts are become mucilaginous. This happe very frequently, where dung and lime are laid in ſtrata in a dun hill, and not well mixed throughout the maſs; much of the b nefit of it is thereby loſt.

Plants.—Moſt plants uſed in agriculture, that do not branc out at the ſide above ground, generally do it below ground, as a corns and graſſes do. Feeding corn, or bruiſing the tops of with a roller, makes it branch out below ground.

All perennial graſſes continue ſuch, by branching out anew every year; for the old root always dies.

Whenever a plant becomes weak, its juices are converted int ſugar, which allures inſects to come and lay their eggs there hence blights, &c.

Plants abſorb nouriſhment by their leaves, as well as by the roots: and, whilſt their leaves are flouriſhing, they diſcharge i to the ground a part of their juices; and, until they begin flower, they diſcharge a greater quantity than they receive fro the earth; conſequently, till then, they enrich the ground. Plan that have lateral flowers, ſuch as peas, lupins, &c. continue flouriſh during all the time of flowering, which is till the ſeed ripe. Plants that have terminal flowers, as corn and graſſes, ha their leaves withered by degrees in a few days, as the flowerin advances; and from that period, they abſorb all their nouriſ ment from the ground to perfect their ſeed, and yield no nouriſ ment to the ground. Seeds taken from plants in a rich ſoil, branc out more than thoſe taken from plants in a poorer ſoil. No pla robs another of the food it takes in by the root; but, on the co trary, gives it more food; for the ground is kept the moiſter, t more plants there are: but plants, by being too cloſe, rob one a

oth

f what they receive from above, viz. air, ſun, dews, rain,

e is always the greateſt crop of hay, if cut when the flower-
ins to open; for then there is a greater quantity of nou-
it in the plants, than either before or after that period.

ghing.—Among the numberleſs advantages that attend a
h ploughing, &c. beſides pulverizing of the ſoil, there are
ſt certain: one is, that if there be any poiſonous qualities
oil, ariſing from metals or ſulphur, you infallibly deſtroy
by turning them up to the air.

ſecond is, that you open the way for the fibres of plants
queſt of their food, and thereby render them ſtrong and
s.

FOR THE FARMER'S MAGAZINE.

HISTORY OF AGRICULTURE.

(From Edin. Encyclop.)

UGH agriculture may be considered as of great antiquity,
some respects as coeval with the first formation of society,
erials are wanting, from which a progressive history of
can be composed. It is probable, however, that mankind,
arly ages, derived their subsistence from hunting in the
and fishing in the rivers, and from the milk and flesh
domestic animals as they possessed; but how long they
ed in this situation, it is impossible to form any conjec-
From the sacred writings we learn that husbandry was
ood by NOAH, who of course taught it to his sons, by
it is likely the art was spread over the world. The his-
the Egyptians informs us, that they were well acquaint-
agriculture; and perhaps the people of Italy, under the
government, understood all the branches of husbandry
etter, and practised them with greater success, than the
inhabitants of that country. There is sufficient authority
maining that an enlightened system of rural economy had

executed. But whatever might be the situation of Britain invaded by the Romans, it is certain, that the husbandry c island, from the Land's End to the Frith of Forth, was g improved by the Roman soldiers; and that all the grains are now cultivated, were then raised to a considerable e In support of this assertion, could the smallest doubt be tained of its truth, we might refer to the immense quantit grain exported from Britain when in possession of the Ro and the obvious marks of improvement left by that celel people when they quitted the island. The Roman conques stead of desolating the earth, as too often has been the c similar instances, insured the improvement of every countr was subdued; and the soldiers of that nation, being drawn the plough, spread a knowledge of husbandry through country which came under their dominion. To benefit mar and increase their comfort and happiness, seemed to be the riable wishes of the Roman commanders. They seldom or burned or laid waste the country which they conquered, but strained every nerve to civilize the inhabitants, and introdu arts necessary for promoting their comfort and happiness. facilitate communication from one district and town to an appears to have been a primary object with the Romans; ar works of this kind accomplished by them, are still discerni numerous places. By employing their troops in this way, not engaged in more active service, the Roman commanders to have had greatly the advantage over our modern generals. stead of suffering their soldiers to loiter in camps, or r towns, thereby enervating their strength and relaxing thei rals, the Roman commanders kept their soldiers regula work, and, what was still better, at work on objects high neficial to the interests of those whom they subjugated.

When the Romans finally withdrew from Britain, the co southward of the Frith of Forth had attained a considerabl gree of cultivation and improvement; but it does not appea the inhabitants had acquired much of the martial spirit of former masters and instructors. This improvement was, ever, soon wasted and dissipated, particularly in the distric tween the two walls, by the ravages of the northern tribes, known under the names of Maæatæ and Caledonians. fierce plunderers, though undoubtedly the smallest number, vailed so far over the unhappy Britons, as to induce that en ed people to invite the Saxons to their assistance, who, in turn, became masters and possessors of the greatest part o island. Except Wales, and the western part of Scotland, known under the name of Strath Cluyid, the whole island,

of the Frith of Forth, was in the possession of the Saxons for several centuries.

But the state of South Britain was not fixed or completely settled till the Norman invasion, when customs and habits were introduced, which, to this day, remain so firmly established, as not to be removed without the special interposition of the legislature. To his Norman Barons, William the Conqueror assigned great estates almost in every county, as a reward of their services; and these grants were afterwards enlarged, when forfeitures occurred from the rebellion or disobedience of the old Saxon possessors. The estates so bestowed were, by the great barons or officers, in in some measure divided and bestowed upon their retainers or dependents, under the burden of military service; and in this way feudal tenure was introduced, and created into a regular system.

Before the Conquest, the country situated between the Forth and Newcastle-upon-Tyne, then known under the general name of Laudonia, or Lothian, had been acquired by the Scotish nation, though afterwards the limits of the two countries were nearly the same as they stood at the memorable period of their union. The Saxon government was favourable to internal improvement; or, rather, it continued the system introduced by the Romans; but the Norman conquest, by introducing the feudal system, impeded improvement, and placed husbandry in a declining state. From the Conquest to the days of Henry VIII., the practice of husbandry had received little improvement; and as for theoretical, or scientific knowledge, there is not the slightest vestige of any being acquired, or even sought after, during the long period of five centuries. To the haughty feudal baron, who reigned in a castle, and was provided with an abundant supply of the necessaries of life from his extensive domains, the improvement of the country was a trifling object; and, as his dependents held by military tenure, they considered husbandry as unworthy of notice. Hence agriculture was carried on only by the very lowest of the people, as is plain from the name *Villeyns*, then given to the practical husbandmen; and, in such hands, the art necessarily languished and fell into disrepute. The unhappy wars between the houses of York and Lancaster gave husbandry also a severe shock, one half of the country being desolated and laid waste by the contending factions.

Sir Anthony Fitzherbert, one of the Judges in the Court of Common Pleas, was the first person on record who attempted to enlighten English husbandmen, by writing on the art of agriculture, having, in 1534, published a treatise called *The Book of Husbandry*; and another in 1539, entitled, *The Book of Surveying and Improvement.*

provement. The Book of Husbandry seems intended for the benefit of tenants, containing minute directions for ploughing, managing, and cropping land; together with a full account of the diseases which affect horses and other animals, and of their respective cures. The Book of Surveying relates to castles, woods, parks, mills, and other branches of property; and also contains numerous advices concerning the best way of improving arable land. It has always been understood that Fitzherbert's works were of great benefit to English husbandmen; therefore, a fuller account of them may be gratifying to our readers, especially as the treatises mentioned are now only to be found in the libraries of the curious.

Sir Anthony Fitzherbert, laying down as a primary principle, that the majority of husbandmen live by the plough, first describes the varieties of that implement generally used in his time for tilling the ground; and, from the description given, appears to have possessed correct ideas concerning the different parts of that important implement. He next points out the several articles that belong to a team of horses; and, when speaking of carts and waggons, very properly recommends, that the wheels on which they are mounted should be shoed or bound with iron; from which circumstance it may be inferred, that wheels altogether composed of wood were at that time commonly used. It would appear, that the operative husbandman, in Fitzherbert's days, acted as a jack-of-all-trades; for, among the necessary things belonging to a plough, we find an axe, hatchet, hedgebill, auger, flail, spade and shovel, particularly enumerated. It is also recommended, that young husbandmen should learn to make his *yokes*, ox-boues, stools, and all manner of plough *geare*, lest the purchase of these articles should be too costly for him. Fitzherbert seems to have preferred oxen above horses in executing rural labour, though he frankly admits that horses will go faster than oxen on even and light ground, and are quicker for all sort of carriage work.

Diligence and attention in executing rural operations, are strongly enforced by Judge Fitzherbert. These qualities are no doubt absolutely called for in every husbandman who wishes to farm successfully; and are supported by our author with singular felicity. He quotes the gospel parable about a man putting his hand to the plough, &c.; which he explains in an ingenious manner. According to his definition, the man who looks backward when going at the plough, cannot make good work, but must make *baulks*, and otherwise mislabour the ground; the consequence of which will be, little corn at harvest. He judiciously concludes the argument by stating, that the man who does not attend

attend upon his husbandry, but goes to sport or play, tavern or alehouse, or lies sleeping at home, devoting his time to idle employments, is not worthy to have any corn.

From the particulars stated, the great merit of Sir Anthony Fitzherbert's treatises on husbandry, may in some measure be comprehended. In fact, were these treatises translated, (for many of the words are obsolete, and not easily understood), much benefit might be gained from them by husbandmen of the present day. No doubt several errors may be found in them; but still, as they contain the rudiments of true knowledge, a republication would be highly advantageous, especially if errors were omitted, and additions and explanations given by way of footnotes.

An hundred years, however, elapsed, after the publication of Sir Anthony Fitzherbert's book, before any thing further appeared really deserving the attention of husbandmen. During the Commonwealth, a period favourable to genius and enterprize, and when a number of persons appeared upon the stage of life, whose names would never have been heard of had not a change of government occurred, Walter Blythe, Gabriel Plattes, and other enlightened men, illustrated the art of husbandry in the most satisfactory manner. Blythe's writings, in particular, contain a great deal of sound sense, and not badly expressed, on almost every branch of husbandry. The first part of his *Improver Improved*, published 1652, contains what he calls six pieces of improvement: 1. On floating and watering land; 2. On draining fen and boggy land, and regaining land from the sea; 3. On such enclosures as prevent depopulation, and advance all interests; 4. On tillage of land kept too long in grass, and pasturing others destroyed with ploughing; 5. Discovery of all soils and composts, with their nature and use; 6. On doubling the growth of wood by new plantations.—The second part contains six newer pieces of improvement: 1. On the husbandry of clover and St Foyn; 2. On lessening the charge and burthen of the plough, with divers figures thereof; 3. On planting wild woad and madder; 4. On planting hops, saffron, and liquorice; 5. On planting of rape, coleseed, hemp and flax, and the profit thereof; 6. On the great advance of land by divers orchard and garden fruits. Baring the dedication to my Lord Protector, and other public bodies, the whole of the *Improver Improved* (now become a scarce book) might be reprinted with manifest advantage.

After the Restoration, various improvements were brought to England by refugees, who had resided on the Continent during the government of the commonwealth. It has been generally understood that Sir Richard Weston, one of these refugees, introdu-

troduced clover; but it is plain that this valuable variety of grass was sown in England before that period; for Blythe treats both of it and St Foyn in a syſtematic manner. It is more likely that turnips were then firſt cultivated; becauſe Blythe does not ſay a word concerning this valuable eſculent, the introduction of which occaſioned almoſt a total change in the Engliſh agricultural ſyſtem of treating light ſoils.

Before clover and turnips were cultivated on a great ſcale, the huſbandry of Britain was neceſſarily imperfect. The ſcourging crops much exceeded the meliorating ones; of courſe, the produce of the ground was conſiderably inferior in quantity to what it is now, and a great inconvenience was felt by the public from not receiving a regular ſupply of butcher meat through the whole year, with which they are now fortunately provided. Another circumſtance, which accompanied the old ſyſtem, was, that light ſoils could rarely be cleaned without ſuffering them to be unproductive for a year, when they were ſummer fallowed; whereas ſince turnips were introduced, theſe light ſoils are more effectually cleaned than formerly, whilſt a valuable crop is obtained in the ſame year. Summer fallow has long been extenſively practiſed in England, and at this day perhaps more ſo than is neceſſary, eſpecially upon common-field land, as will be more particularly noticed in another place. With all fields held in ſeveralty, the introduction of clover and turnips has proved of ſingular advantage, not only in a private, but alſo in a public point of view. A judicious rotation of cropping may thereby be exerciſed, inſomuch, that one culmiferous crop may not follow another, which could not formerly be avoided; whilſt the culture of leguminous crops enriches the ſoil, increaſes the ſtock of manure for rendering it productive, and furniſhes the means of ſupplying the markets with fat cattle and ſheep through every month of the year.

The improvement of the Engliſh rural ſyſtem was in ſome degree promoted by the exertions of Jethro Tull, an inventive genius, who poſſeſſed more imagination than ſolid ſenſe to direct it. By him the drilling or row ſyſtem of huſbandry was brought into practice; and ſo eager was he in its ſupport, that he altogether neglected to take into account the impracticability of executing it in numberleſs ſituations. But the ſtrongeſt proof, that the imagination of Tull was more brilliant than his judgment was profound, may be gathered from his hoſtility to manures, and ſubſtituting additional tillage in their place, which in every caſe was his ſheet-anchor. The doctrines of Tull were, however, like thoſe of every plauſible theoriſt, adopted by ſeveral people; and, to a certain extent, are even faſhionable at this day. The utility, nay, the neceſſity of manures, is now acknowledged by every perſon; but his plan of drilling

drilling all kinds of grain continues to be ſupported, though it is demonſtrable that this mode of ſowing is chiefly applicable to leguminous crops, and only in few ſoils and ſituations practicable with culmiferous ones.

The plan of cultivating the fields in the like regular manner, as followed in garden huſbandry, is no doubt very deſirable, would circumſtances ſuffer it to be executed; but we are apprehenſive that phyſical impediments are in the way of ſuch a plan, which will not eaſily be removed. Theſe ſhall be noticed in the ſection where Drill-Huſbandry is treated of.

Little further alteration of the rural economy of England occurred, except in the ſuperior attention beſtowed on live-ſtock, by Mr Bakewell and others, till the eſtabliſhment of the national Board of Agriculture, when a general deſire ſeized all ranks to promote internal improvements. Hartlib, a century and a half before, and Lord Kames, in his Gentleman Farmer, had pointed out the utility of ſuch an eſtabliſhment; but it was left to Sir John Sinclair to carry their ideas into execution. To the unwearied endeavours of Sir John are the public indebted for this novel inſtitution, which certainly has done much good, and may ſtill do a great deal more. Two benefits, among many, may be mentioned: 1*ſt*, A great number of new men were brought forward by the Board, whoſe names otherwiſe would probably never have been heard of; and theſe being chiefly practical people, in other words, people profeſſionally concerned in farm-management, agriculture, by their endeavours, was reſcued from the hands of theoriſts, and a revolution of no ſmall extent accompliſhed in rural affairs: 2*dly*, Before the Board was inſtituted, the bond of connexion amongſt agriculturiſts was ſlender, and ſerved few uſeful purpoſes, each ſtanding on his own ſtrength and information, and knowing little more about the practices of conterminous diſtricts, than thoſe of China or the moſt diſtant countries. The eſtabliſhment of the Board did away at once all thoſe evils and difficulties. A common fortreſs, erected for the benefit of all agriculturiſts, and to which each might reſort for advice and protection, was immediately recognized. It made farmers, who reſided in the moſt diſtant quarters of the kingdom, acquainted with one another; and cauſed a rapid diſſemination of knowledge amongſt the whole profeſſion. It did more; the art of agriculture was brought into faſhion; and this being the caſe, old practices were amended, new ones introduced, and a degree of exertion manifeſted which had never before been exemplified in this iſland.

But the numerous ſurveys of huſbandry, executed under the authority of the Board, were of ſingular advantage, inaſmuch as they brought to light the practice of every county; and, while they

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pointed out the obſtacles which lay in the way of improvement, alſo ſtated the moſt effectual methods of removing them. The very colliſion of argument which ſuch diſcuſſions occaſioned, was of advantage, cauſing agriculturiſts to inveſtigate the principles of the art which they profeſſed, and inducing them to ſearch after new channels of improvement. In ſhort, the Board, in a few years, collected a maſs of agricultural information hardly to be equalled, not to be exceeded, by the accumulated ſtores of every other nation.

That the firſt meaſure adopted by the Board, namely a general ſurvey of the island, was a uſeful one, has been acknowledged by every perſon; but doubts have been entertained by many, concerning the utility of ſeveral ſubſequent meaſures, which deſerve ſome conſideration. It has been urged, and with ſome degree of juſtice, that the endeavours of a public Board ſhould be limited to ſuch objects as exceed the powers of an individual to accompliſh; and that a Board, compoſed of materials like the preſent one, ought not to meddle with the minutiæ or practice of farming; but leave theſe matters entirely to the management or direction of perſons by whom the art is exerciſed. Under theſe impreſſions, it has been ſtated, that the Board were at home, and diſcharging their duty, when they recommended to Parliament a diviſion of common and waſte land: and, in like manner, that their efforts would conſtantly be of advantage, when directed to a removal of obſtructions to improvement, which required legiſlative interference. A recommendation from a public Board carries a weight along with it, enſuring a degree of ſucceſs not to be obtained by the petition or complaint of one or two individuals. Hence the propriety of originating, at the Board of Agriculture, all laws and regulations influencing or operating upon rural œconomy, becauſe the members of the Board may reaſonably be ſuppoſed to poſſeſs a degree of knowledge in rural ſcience, rendering them ſufficiently qualified to judge of, and determine upon, the meaſures to be adopted.

But, on the other hand, it has been urged, that the practice of huſbandry ought not to be included in their deliberations; and that every thing of that kind may ſafely be left to professional people, who are morally and phyſically better qualified to inveſtigate and aſcertain what is right or fitting to be executed. It has been further urged, that when a Board of trade acted in this country, its meaſures were confined to the great and leading objects of commerce, without deſcending to minutiæ, or interfering with the buſineſs of individuals. In a word, it has been ſuppoſed almoſt as prepoſterous for the Board of Agriculture to meddle with ploughing, ſowing, planting potatoes, building cottages, &c. &c. as it would have been for the Board of Trade to iſſue directions to apprentices concerning

concerning the beſt way of folding and tying parcels. Though inclined to think that there is ſome weight in the arguments urged, we adhere to the opinion already given, that much good has been done by the Board, and that a great deal more may ſtill be accompliſhed. The ſcantineſs of their funds, however, is a reproach to the nation, and calls loudly for additional aid to ſuch a meritorious eſtabliſhment. If the generous ſpirit which animated the Perſian kings had pervaded our rulers when the Board was eſtabliſhed, or had the latter eſtimated agriculture to be of the ſame value as it was appreciated by the former, a complaint of this kind would have been ſuperfluous. At the annual feſtival in April each year, in honour of agriculture, the Perſian king was in uſe to addreſs the farmers to the following effect: "I am one of you. My ſubſiſtence, and that of my people, reſts on the labour of your hands; the ſucceſſion of the race of man depends on the plough, and without you we cannot exiſt. But your dependence upon me is reciprocal. We ought therefore to be brothers, and live in perpetual harmony."

We now come to this northern part of the iſland, where huſbandry was long unknown, and ſtill longer imperfectly exerciſed. There is ſufficient evidence, that huſbandry entered Britain at the ſouth-eaſt corner, and travelled, by ſlow and gradual ſteps, to other quarters; but it is difficult to trace the progreſs of the art, or to diſcover how far it had advanced at the time this iſland was evacuated by the Romans. When Severus invaded Scotland, A. D. 207, we are told, "that the Mæatæ and Caledonians, who poſſeſſed all the iſland beyond Hadrian's Wall, inhabited barren uncultivated mountains, or deſert marſhy plains; that they had neither towns nor cultivated lands, but lived on the milk and fleſh of their flocks and herds, on what they got by plunder, or catched by hunting, and on the fruit of trees." Theſe barbarous nations, however, being obliged by Severus to yield up a part of their country to the Romans, that induſtrious people, in the courſe of the third century, built ſeveral towns and ſtations, conſtructed highways, cut down woods, drained marſhes, and introduced agriculture into the diſtricts ſouth of the Frith of Forth, which are generally well calculated for tillage. Though the Romans never formed any laſting ſtation north of the Forth, yet many of them and of the provincial Britons, retired into Caledonia at different times, particularly about the end of the third century, to eſcape from the Dioclefian perſecution. It is probable theſe refugees inſtructed the natives; and as the eaſtern coaſt of Caledonia was remarkably fit for cultivation, there is little doubt but that the Pictiſh nation, who inhabited it, were early initiated into the art of agriculture. Even the Caledonians of the weſt, who in the fourth

fourth century began to be called Scots, were not altogether rant of huſbandry in this period; for St Jerome reproaches tius, who was a Scotchman, "That his belly was ſwelled o tended with Scots pottage, or haſty-pudding." This is at l proof, that, in the beginning of the fifth century, the Sco weſtern Caledonians, lived partly on oat-meal, a kind of fo which they had been abſolute ſtrangers about two hundred before, when invaded by the emperor Severus.

Till the reign of Malcolm Canmore, in the eleventh centur progreſs of huſbandry was very ſlow; but during his reign, a er degree of attention was paid to the cultivation of the co This increaſed attention aroſe from the number of Anglo-S who migrated at that time into Scotland, by whoſe endeavou face of the country was changed from that of a barren wilde to that of a well regulated and cultivated territory. Durin twelfth and thirteenth centuries, the lowlands of Scotland improved conſiderably, and their inhabitants were proſperou happy. As a proof of their internal proſperity, it was in the riods that all the religious houſes were erected; and it is plain before any nation can be munificently pious, it muſt firſt b riſhing and rich. In theſe periods the greateſt part of our m towns and villages were alſo built; and it was then that the began to be civilized, and ſociety to aſſume ſomething of it ſent ſhape. Circumſtances, however, ſoon occurred, which ed, and in a manner deſtroyed, all theſe fair proſpects; and land, from continuing flouriſhing and proſperous, was ſo con ly waſted by civil broils and foreign wars, that the efforts people, during the four ſucceeding centuries, were ſcarcely cient to reſtore matters to their former footing.

Theſe civil broils originated in a conteſted ſucceſſion t crown, wherein the parties, in the firſt inſtance, were nearly r ed; but afterwards, by the interference of Edward of En the ſcale was turned, and, as generally happens in ſuch caſe country was brought under the dominion of a foreign in The death of Alexander III. in 1286, was the ſource of all evils, occaſioning a conteſt concerning the ſucceſſion betwee Baliel and Robert Bruce; which, in the firſt place, almoſt Scotland, and ultimately brought deſtruction upon the follow Baliol, and thoſe who adhered to Edward of England, who ed the ſovereignty as lord paramount of the country. This teſt, which laſted for many years, ſtopped the growing pro of the country; occaſioned the towns and villages to be deſt turned the people's attention from internal improvement fitting external attacks; and rendered them as barbarous and vilized, as they were before the days of Malcolm Canmore.

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baneful conſequences which flowed from a diſputed ſucceſſion, were hardly overcome, when England and Scotland were united under the government of one ſovereign; nor did they altogether diſappear till the middle of the 18th century. Before that time, the internal improvement of the country was neglected and overlooked, whilſt the great bulk of the inhabitants continued in an abject and miſerable ſtate, imperfectly fed, deſtitute of other comforts, without the means of improvement, and altogether in a ſituation which can hardly be deſcribed, far leſs figured, at the preſent moment, when all theſe circumſtances are completely reverſed.

Without inſiſting upon theſe matters, it may only be added, that the large armies brought into the field by the partizans of Baliol and Bruce, chiefly drawn from the Low-country diſtricts, furniſh inconteſtable proof, that the population of the country was then extenſive and numerous. Now, as population and food muſt always go hand in hand, or, ſpeaking more correctly, food muſt always precede population; a ſure evidence of agricultural proſperity at the end of the 13th century is thence furniſhed. Indeed, independent of abſtract reaſoning, we have concluſive proof of the flouriſhing ſtate of agriculture in Scotland from other ſources. According to Hemingford, a writer of no mean authority, it appears that the Engliſh army, when beſieging the caſtle of Dirleton, in Eaſt Lothian, A. D. 1299, ſubſiſted upon the peas and beans growing in the adjoining fields. Every agriculturiſt knows well, that theſe grains cannot be ſucceſsfully cultivated, till huſbandry has reached a pretty advanced ſtate; therefore it may be preſumed, that the agriculture of the diſtrict alluded to, was at that period conſiderably improved. But another circumſtance, ſtill more deciſive, may be gleaned from the wardrobe account of Edward I.; wherein it appears, that, when that monarch invaded Galloway in 1300, he purchaſed and exported from Kirkcudbright to Whitehaven, and other parts of Cumberland, greater quantities of wheat than perhaps the modern agriculture of that province can ſupply at the preſent day.

But the moſt preciſe and correct account of Scotiſh agriculture, during the Anglo-Saxon government, or from the reign of Edgar, who mounted the throne in 1097, to the deceaſe of Alexander III. 1285, may be found in Mr Chalmers's CALEDONIA, recently publiſhed, wherein the moſt diligent reſearch is diſplayed, and every ſtatement ſupported by reſpectable authorities. The authorities cited by Mr Chalmers are numerous and deciſive. Without truſting to former writers, who rarely took the trouble to aſcertain the truth of what was aſſerted, this gentleman ſeduloufly conſulted the ancient records, both of public bodies and private individuals, and has thereby thrown a light upon the antient hiſtory of this

country, ſufficiently bright to illuminate the dark periods which h treated of, and enlighten the people of the preſent day, reſpect ing the former ſtate of their native country, and the progreſs o agriculture, and other uſeful arts.

From the intereſting particulars communicated by Mr Chalmers ample information is received concerning the favourable conditio of rural economy in Scotland, at the end of the 13th century whence it may be inferred, that the Low-country diſtricts, eſpe cially thoſe ſouth of the Forth, were in a rapid ſtate of improve ment. It muſt, however, be remarked, that little of that im provement was owing to the Celtic natives, nearly the whole o it being attributable to the foreigners introduced by the Scoto Saxon kings. From the reign of Edgar to the concluſion of th Saxon dynaſty, numerous bodies of Anglo-Saxons, Anglo-Nor mans and Flemings, ſettled in Scotland, and, by favour of the ſe veral monarchs, acquired vaſt poſſeſſions in many diſtricts. Ed gar, the firſt of the Saxon dynaſty, forced his way to the thron by the deciſive aid of an Engliſh army; and afterwards gradual brought in a new people, whoſe polity was widely different fro that of the aboriginal inhabitants. Alexander I., who married a Engliſh princeſs, likewiſe encouraged ſettlers of that nation; bu the reign of David I. was moſt propitious to adventurers from fo reign countries. That prince, having married an Engliſh counteſ who had numerous vaſſals, was attended to the throne, in 1124 by a thouſand Anglo-Normans, to whom he diſtributed extenſiv landed poſſeſſions, and otherwiſe afforded protection and encou ragement. In fact, a change then took place in the Low-countr diſtricts of Scotland, ſomething ſimilar to what is now going for ward in the Northern or Highland diſtricts.

Numerous colonies of Flemings alſo ſettled in Scotland, an from this ſtock ſeveral of the firſt families of the country hav ſprung. The Celtic people had their hamlets, to which they gav deſcriptive names in their own language; but when the Angl Normans were introduced, their firſt object was to build a ſtrong hold or caſtle, around which the followers of the chief ſettled, an thus formed a village, and in ſome caſes, a town; in which prac tice they were much encouraged by the ſeveral ſovereigns, wh wiſhed to bridle and reſtrain the ferocity of the natives. The po licy of the Scotch kings, during the Saxon dynaſty, prompted th building of caſtles in every place where a convenient ſite occu red; and it was under the protection of theſe ſtrongholds, th towns aroſe, and induſtry began her career. Such a ſyſtem policy, however, was viewed by the Aborigines with indignatio Inſurrections were often raiſed, and attempts made to burn an deſtr

h salutary effects; because the monks being drawn from
nd and foreign countries, of course brought along with
he arts exercised in these countries, to the great benefit of
ngdom in which they now settled. These ecclesiastics had
dependants, to whom they granted parcels of land on
ions of service; and it must be confessed, that the church
were first improved, and in such a substantial way, that
of them to this day continue to yield more productive crops
he lands then in the hands of the barons, though at first
here may appear no difference in their natural value. The
s brought along with them many craftsmen or artisans from
n countries, and in this way the settling of every religious
may be considered as the plantation of a new colony of
eutonic race amidst the Celtic inhabitants of North Britain.
Succession War gave a shock to the prosperity of Scot-
from which it had not altogether recovered, when the whole
was incorporated under one government. Were there the
st doubt respecting the consequence of the wars which,
hort intermissions, prevailed from the end of the thirteenth
middle of the fourteenth century, it might be removed by
ence to the two valuations, called the Old and New Extent,
in full evidence is disclosed concerning the deterioration or
which had taken place in North Britain. The old extent,
in the reign of William the Lion, is nearly double the sum
ed under the new extent made up in 1369, after the cap-
f David Bruce. But this difference of value will excite no
se, when it is considered that the business of the inhabi-

pulence of the country, and entailed a degree of penury on its inhabitants, which has only of late been completely surmounted.

During the fifteenth and sixteenth centuries, rural economy continued to languish, especially upon the estates of the barons, where the old trade of fighting was regarded as of greater importance than that of manuring and cultivating the ground; but the ecclesiastical lands were considerably improved, and the tenants of them were generally much more comfortable and happy than those upon the estates of laymen. The reformation of religion, beneficent as it was in other respects, rather checked than promoted agricultural improvement; because the change of property, which then occurred, occasioned a similar change of tenantry, and almost took husbandry out of the hands of the only class of people by whom it was practised upon correct principles. The dissolution of the monasteries, and other religious houses, was also attended by injurious consequences in the first instance; though latterly the greatest benefit has been derived from tythes and church lands having come into the hands of laymen. It is probable, had not these circumstances occurred, that the tythe system would have still remained in force, and Scotish husbandry have continued under a burthen, which sinks and oppresses the cultivator of the sister country. But tythes having got into the hands of lay titulars, or impropriators, were in general collected or farmed with such severity, as to occasion the most grievous complaints, not only from the tenantry, but also from the numerous class of proprietors, who had not been so fortunate as to procure a share of the general *spulzie*. This, added to the desire shown by the crown to resume the grants made when its power was comparatively feeble, occasioned the celebrated submission to Charles I., which ended in a settlement, that in modern times has proved highly beneficial, not only to the interest of proprietors, but likewise to the improvement of the nation. Tythes, in fact, are a burthen, which, to all intents and purposes, operate as a tax upon industry, though it was a long time before the beneficial consequences of withdrawing them were fully understood, or even discerned in this country.

The accession of James to the crown of England, is understood to have been unfavourable to the agricultural interest of Scotland; inasmuch as the nobles and gentry, being by that event led into great expenses, raised the rents of the tenantry considerably, whilst the very circumstance which occasioned the rise, contributed to lessen the means of the tenant for making good his engagements. Scotland, however, was much benefited by the soldiers of Cromwell, who were chiefly English yeomen, not only well acquainted with husbandry, but, like the Romans at a former

former period, studious also to improve and enlighten the nation which they had subdued. The soldiers of Cromwell's army were regularly paid at the rate of 8d. per day, a sum equal at least to the money value of two shillings of our currency: and as this army lay in Scotland for a great many years, a flux of money thereby found its way into the country. Perhaps the Low-country districts were at that time in a higher state of improvement than at any period since the demise of Alexander III. This improvement does not altogether rest upon conjecture, but is supported by many facts. In the counties of Lanark, Renfrew, Ayr and Kirkcudbright, the rentals of various estates were greater in 1660 than they were 70 years afterwards; and the causes which brought about a declension in value are ascertained without difficulty. For instance, the large fines exacted from country gentlemen and tenants in these counties, during the reigns of Charles II. and his brother James, were almost sufficient to impoverish both proprietors and cultivators, had they even been as wealthy as they are at the present day. Added to those fines, the dreadful imprisonments and other oppressive measures pursued by those in power, equally contrary to sound policy, as to justice and humanity, desolated large tracts,—drove the oppressed gentry, and many of their wealthy tenants, into foreign countries,—and extinguished the spirit of industry and improvement in the breasts of those who were left behind. A succession of bad seasons soon after the Revolution, heightened these calamities, and, in short, completed the ruin of the tenantry. It is well known, that innumerable farms at that period remained unoccupied; proprietors having to search after tenants, who were able to stock and cultivate the ground, with almost the same assiduity that must now be displayed by tenants who are out of possession.

It would be unpardonable to omit noticing the active efforts of a Society, formed in 1723 for the improvement of agriculture, consisting of the principal noblemen and gentlemen of Scotland, who continued their labours for more than twenty years, greatly to their own credit, and to the public benefit. Of this we have sufficient evidence from a volume of their Transactions, published in 1743 by Mr Maxwell of Arkland, under the auspices of the celebrated Mr Hope of Rankeillor, one of the most intelligent gentlemen of that period.

Several enactments of legislature, however, had been made in the seventeenth century, which latterly have produced much benefit to agriculture. Independent of the regulation of tithes, a measure of primary importance to husbandmen, the laws relative to the enclosing of land, and dividing of mixed possessions, may be

ranked as peculiarly calculated to excite improvement, in ſo far as the trouble of accompliſhing theſe objects was greatly leſſened, whilſt preciſe rules were laid down, by which theſe improvements might be carried into effect. In theſe branches of rural legiſlation, Scotiſh practice holds out a judicious pattern for the imitation of our Southern neighbours, who are confeſſedly behind in every one of them, and, in fact, cannot move an inch without the aid of the legiſlature. Want of capital ſtock was the greateſt impediment to Scotiſh agriculture; but this was partly removed by the rebellion of 1745, when vaſt ſums of money were poured into the country; and, ſince that period, the huſbandry of Scotland has progreſſively improved, in ſuch a manner as to bear compariſon, local circumſtances conſidered, with that of any country in Europe. Even the abrogation of the feudal ſyſtem, by paſſing the Juriſdiction Act, was of material advantage, inasmuch as the ſecurity of cultivators was thereby increaſed, and their ſituation rendered infinitely more independent, than in former times. Since the concluſion of the American war in 1782, improvement has proceeded with ſingular rapidity in every diſtrict; and while the rental rolls of proprietors have been doubled, tripled, and quadrupled, the condition of the tenantry, and of the lower ranks, has been ameliorated almoſt in a proportional degree. Theſe circumſtances are ſure tokens of agricultural proſperity; demonſtrating, in the moſt forcible terms, that huſbandry is a main pillar of the ſtate, and that the happineſs and welfare of the community depends greatly upon the manner in which the art is executed. No nation, whoſe huſbandry is feeble and imperfect, can be conſidered as really proſperous, notwithſtanding that conſiderable advances may be made in other arts; becauſe, when the art of raiſing food is neglected, all others muſt ultimately be forſaken. In a word, to promote and encourage huſbandry, to remove every obſtacle that ſtands in the way of exerciſing it, and to ſecure thoſe concerned in carrying on the art, are duties obligatory upon the government of every country; and according as theſe duties are diſcharged, ſo will the wiſdom of ſuch a government be eſtimated by every man who feels for the proſperity of the ſtate, or is attentive to the ſources whence that proſperity proceeds.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts concerning the Propriety of raising a greater Quantity of Potatoes than usual, on account of the present Political Situation of Britain.

SIR,

I write to you on a ſubject which appears to me of the greateſt national importance. A ſuperficial glance at the preſent ſtate of Europe

Europe muſt convince us, that a failure of the enſuing harveſt, which Heaven avert, could not be relieved by importation from the Continent, every port of which is, or ſoon will be, ſhut againſt us. America is faſt verging to a ſtate of hoſtility—even now exportation is prohibited. Supplies from Canada muſt be *very limited* and precarious. Sicily, formerly the granary of the Roman empire, is now comparatively unproductive; at any rate, its overplus will be conſumed by Malta, and a Britiſh army of 15,000 men. Rice, from India, can only be imported at an enormous expense; and, even on the moſt favourable calculation of the greateſt quantity poſſible to be thus introduced, would afford conſumption for only two or three weeks. All theſe circumſtances prove, that we muſt depend on ourſelves alone for ſubſiſtence, until another ſtate of things ariſes in Europe. My object in exhibiting this picture, is to induce you, if you concur in my opinion, to exhort your readers, and the public at large, to guard againſt the fatal contingency of a bad harveſt, by planting potatoes to a much greater extent than uſual. By nearly the ſame preparation, and a ſomewhat greater expense, potatoes might be ſubſtituted for turnips, cabbages, carrots, and other green crops, on a very great proportion of ſoils. They would be of equal, as has been proved, if not of greater value, than any other crop, for fattening cattle; and I believe it is generally allowed, that where neceſſity has obliged recourſe to be had to that root for the ſole ſubſiſtence of man, one acre of potatoes is equal to three of wheat. In ſhort, as an agriculturiſt, you can be at no loſs for a variety of arguments to enforce your recommendation of the meaſure I ſuggeſt. I think a public addreſs on the ſubject from the Board of Agriculture, might have a good effect on the farming public. During the enſuing half year, it is probable that a ſtagnation of *foreign* trade will take place to a *very great degree*: indeed our own colonies and South America are our only outlets; the latter even contingent. All our manufactures and manufacturers connected with our foreign relations, muſt ſuffer. Should this ſtate of diſtreſs in trade and manufactures, eſpecially the latter, be accompanied by ſcarcity of proviſions, or by an enormous riſe in their price, it is difficult to ſay what would be the conſequences. We might be conquered by ourſelves. The riots laſt year in Mancheſter and its neighbourhood, ſhow to what extremities the manufacturing part of the community were reduced, and alſo to what extremities they would proceed on all ſimilar occaſions of diſtreſs and want of employment. If you approve of theſe hints, inſert in your firſt Number an animated addreſs to the nation, in your *best manner*, on the ſubject of this letter. I think it would not be amiſs to add a few comparative calculations on the expense,

produce, &c. of potatoes, turnips, and other similar crops—if not in *money*, at least in the number of ploughings, harrowings, quantity of manure, hoeings, &c. &c. I am yours.

Aberdeenshire. A WELLWISHER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Farina of Potatoes recommended as a Substitute for Oatmeal.

SIR,

IT would be superfluous to attempt saying any thing in recommendation of the enclosed Essay to you, or any one who is a competent judge in matters of this nature. However trifling the subject may appear at first view, I humbly trust you will perceive its vast importance to agriculture. Besides, the potato farina is a valuable and imperishable provision against scarcity. It would be peculiarly advantageous to those parts of the Highlands and islands of Scotland, which suffer frequent hardships from want of corn.

The mode of extracting the farina from the potato may be greatly simplified; and if you are pleased to honour the enclosed Essay with a place in your next Magazine, I will send you my future experiments on that process. I am, with all due regard, Sir, your most obedient humble servant,

W. C.

Flookersbrook, near Chester,
14th Feb. 1809.

A pleasant and profitable Substitute for Oatmeal.

THE respectable author of the Wealth of Nations says, that 'if, in any country, the common and favourite vegetable food of the people should be drawn from a plant, of which the most common land, with the same, or nearly the same culture, produced a much greater quantity than the most fertile does of corn, the rent of the landlord, or the surplus quantity of food which would remain to him, after paying the labour, and replacing the stock of the farmer, together with its ordinary profits, would necessarily be much greater;—population would increase, and rents would rise much beyond what they are at present.'—*Wealth of Nations, vol. I. p.* 248 *&* 250.

At a time when the high price of bread places that first article of necessity almost beyond the reach of the labouring poor, and when many circumstances, both foreign and domestic, combine to threaten the country with a progressively increasing dearth of

corn, any expedient for diminishing the consumption, and increasing the quantity of graniverous food, cannot fail to meet with due consideration from the public: I say, *increasing* the *quantity* of graniverous food; for a more extensive use of leguminous food would necessarily augment the produce of grain in the country, since crops of that sort, under judicious culture, tend to meliorate the soil, and prepare it for yielding the most abundant crops of every kind of grain.

One cause, perhaps, why bread has always been cheaper in France than in most other countries, is, the vast proportion of leguminous food used by people of all ranks in that nation. This wholesome and nutritive diet (in the culinary preparation of which the French are inimitably expert) precluding, in a great measure, the necessity and use of animal food, enables them to confine the grazing system within very narrow limits, and to carry that of agriculture to an immense extent; for it seems to be an established fact, that *one acre* of arable crop, properly cultivated, will produce more human food than four acres of the same land in a state of pasture for feeding stock; so that, where * one million of people may be maintained by pasturage, four or five millions may be maintained by tillage.

It is a circumstance much to be regretted, that the progressively increasing consumption of animal food throughout Great Britain, is such as induces both farmers and land-owners to extend the grazing system to a degree far beyond what is compatible with the permanent welfare of the community. Vast imports of corn must be made annually, or population must decrease: but the population of a state cannot retrograde without experiencing great misery. 'If the luxurious intemperance of consuming flesh-meat principally, and of drinking intoxicating liquors, should increase among us, so as to thin the inferior orders of society by scarcity of food, and the higher ones by disease both of mind and body, it may hereafter be said of Great Britain, amid her foreign conquests, as formerly of antient Rome—

———Sævior armis
Luxuria incubuit, victumque ulciscitur orbem.

Dr Darwin's Philosophy of Agriculture.

The substitute for oatmeal which the writer has to propose, is no new invention. Potato farina has long been used as a delicate article of food in some parts of the Continent, but has not, at least to the writer's knowledge, been used as such in Great Britain. It is true, some of our eminent physicians have recommended

* See Communications to the Board of Agriculture, vol. III, p. 12, &c.

mended it as a restorative diet for consumptive people. But on what general principle does the faculty select articles of diet for the sick? Is it not this,—*to prefer those articles* chiefly, which contain the *greatest quantity* of *nourishment possible, under the smallest volume possible?* Now, is not this rule equally applicable to people in health? Will not the same food which renovates decayed strength in the sick, tend to preserve strength in the healthy? The Scotch labourer, after eating his half gallon bicker of oatmeal porridge, is unwieldy, and must lose some time in rest ere he can resume his labour with comfort to himself. He is also frequently troubled with the pernicious complaint vulgarly termed the *heartburn*. The potato farina seems to be exempt from this last inconvenience; and being in quality highly nutritive, the quantity required for a full repast is comparatively small. 'The common people in Scotland, who are fed with oatmeal, are in general neither so strong nor so handsome as the same rank of people in England, who are fed with wheaten bread. They neither work so well, nor look so well. But it seems to be otherwise with potatoes; the chairmen, porters, and coalheavers in London, and those unfortunate women who live by prostitution (the strongest men and the most beautiful women, perhaps, in the British dominions) are said to be the greater part of them from the lowest rank of people in Ireland, who are generally fed with this root.'—*Wealth of Nations, vol. I. p.* 251.

The mode of using the farina is simply this;—the milk or broth, put into a pan, is set on the fire to boil, except a small quantity in which the farina is to be mixed. One heaped teaspoonful of farina for every pint of milk, is to be well mixed with the cold liquid which was left out for that purpose; and when the milk on the fire boils, this mixture, with the addition of a little salt, is poured into it, and the whole is gently and constantly stirred until it has simmered a very few minutes, when it is taken off the fire for use.

One quart of this palatable gruel, with a slice of bread and cheese, will make a most comfortable and nourishing breakfast or supper for a labouring man. It may be sweetened with a little treacle, for children; and they will soon prefer it to every other breakfast.

It is deemed unnecessary to describe here the simple and easy process of extracting the farina from the potatoes; this being already pretty well known among the country people in remote districts, and is practised in order to make starch for linen. It may be done, without any loss of time, by the farm-servants, in the long winter evenings.

When

When potatoes are cheap and plentiful, every good and provident housewife will store up a few hundred weights of this excellent farina for future contingencies. It will probably keep good for a great number of years. The writer has some at present which was made in the winter of 1804: it is equally as good and sweet, as on the first day it was made: there is no perceptible alteration whatever. This farina might be advantageously used on board our fleets, both royal and commercial, perhaps to the entire exclusion of oatmeal and wheat flour. It would stow in less room, be infinitely less expensive, and less perishable than the former. Beef broth thickened with this essential farina, would, with the aid of biscuit, prove a most wholesome and nourishing repast for our sailors, precluding the necessity of a more solid food.

It is earnestly recommended to respectable and patriotic matrons, to give this comfortable breakfast a fair trial among their farm-servants, and endeavour to establish its use in their respective neighbourhoods. But let them carefully disguise its name to the work people at first; for, were it equal to the manna which fell from heaven around the tents of the Israelites, they would spurn it if they knew it was extracted from the homely potato. They would be as much averse to changing their oatmeal gruel for a cheaper, though *better* diet, as they are to changing their wretched implements of husbandry for others, with which they might perform double the quantity of labour in the same given time, with more ease to themselves.

The rich, as well as the poor, should adopt the use of this excellent farina: it is susceptible of many culinary preparations, and, under certain forms, is not inferior to some of our favourite articles of luxury.

Let us now consider, under an economical and agricultural point of view, the immense advantages which would result from a general use of the potato farina instead of oatmeal. At the last gathering season, the best sorts of potatoes sold in Chester market at 2s. 6d. the measure of 90 lib. In remote districts, the price was probably much lower. Ninety pounds weight of the best mealy potatoes will yield 12 lib. 13 oz. of farina; which, at the rate of 2s. 6d. the measure for potatoes, will only come to $2\frac{1}{4}$d. per pound with a fraction, but say $2\frac{1}{4}$d. per pound. Nothing is allowed for manufacturing the farina, since the refuse of the potatoes will do more, as pigs'-meat, than compensate for that trouble, seeing it is to be done by the farm-servants in the winter evenings. One pound of farina will thicken 16 quarts of milk, which, with a slice of bread and cheese to each person, will make a pleasant and nourishing breakfast for 16 labourers.

Oatmeal

Oatmeal costs, in Chester, 3½d. per pound. In the way it is used in Scotland, 12 lib. of oatmeal are required to make a breakfast for 8 labourers. *(See Communications to the Board, vol. V. part I. p. 96.)* The same quantity must, no doubt, be used at supper. Thus, 8 labourers will consume 8760 lib. of oatmeal in one year for their breakfast and supper only; which, at the rate of 3½d. per pound, will amount to the sum of 127*l.* 15s. One pound of potato farina will, as above observed, thicken 16 quarts of milk or broth, which, with a slice of bread and cheese to each person, will make a nourishing breakfast and supper for 8 labourers; and 365 lib. of farina, the quantity required in one year, will only amount to the sum of 3*l.* 16s. 0½d. This, deducted from 127*l.* 15s., leaves 123*l.* 18s. 11½d. in favour of the potato farina. But, as it may not be easy to fix an accurate value on the bread and cheese indispensably necessary for the labouring men, with the gruel of the potato farina; let us compare the produce of an acre of potatoes with that of an acre of oats. An average crop of oats will yield about 1008 lib. of meal per statute acre.—*See Communications to the Board, vol. III, page* 12, *&c.*—An average crop of the best mealy potatoes, say 8 tons per statute acre, (a very moderate average; for if the most prolific sorts are judiciously cultivated by the drill husbandry, they will average 12 tons per acre), will yield 2551 lib. of farina. Thus, the produce of one acre of the best potatoes in farina, equals the produce of 2 a. 2 r. 4 p. of oats in meal, weight for weight: but one pound of potato farina will go as far in thickening milk or broth, as two pounds of oatmeal; therefore, one acre of the best potatoes employed in this way, is equal to 5 acres of oats, fractions omitted. And, on a farm where the produce of 20 acres of oats would be required as a part of the food of the labourers, 4 acres of the best potatoes in farina would accomplish the same end; leaving a surplus of 16 acres for wheat, one crop of which, if the soil is propitious, and the culture good, will yield 24,480 lib. of bread,—enough to serve 33¼ persons for one year, allowing 2 lib. per day to each person. Let this simple and salutary change of food be adopted throughout the empire; let the vast surplus of acres which it affords be properly cultivated for alternate green and white crops, and we shall soon be exonerated from the shameful and ruinous necessity of importing corn from abroad.

Besides this vast surplus of acres, another very important advantage would result from the general practice of substituting potato farina for oat-meal, viz a progressive amelioration of the soil. When land has borne a crop of oats, it must be laid down to grass, or fallowed, before it is fit to bear another profitable grain crop: whereas the land which has yielded a crop of well cultivated

cultivated potatoes, is fit, as to culture, for bearing a *maximum* crop of wheat, or of any other grain congenial to the soil and climate. It seems to be generally allowed, that a crop of potatoes, cultivated in a masterly manner, by the drill husbandry, is a preparation for wheat, not inferior to a naked fallow. Every attentive and intelligent farmer will acknowledge, that oats are a very impoverishing crop to the soil. They are, and have been considered as such, in every country.

" *Urit enim Lini campum seges, urit avenæ.*" VIRG.

They can only be grown with advantage on fresh land, and on the loamy free soils. They are generally unprofitable on clays, and should seldom, if ever, be thrown into the bosom of a real wheat soil. They are the bane of ignorant farmers, on old exhausted tillage, where barley, or almost any other grain would prosper better. In some districts of Scotland (particularly that of Canonby on the Border) where oat-meal is the principal food of the people, it is pitiful to see how eager the poorer sort of farmers are to get oats from exhausted tillage. They sow them year after year on the same field; and, as may be well expected, both the land, the crop, and the tenant, become poorer, and more dirty every year.

" The food produced by a field of potatoes, is not inferior in quantity to that produced by a field of rice, and much superior to what is produced by a field of wheat. It is difficult to preserve potatoes through the year, and impossible to store them like corn, for two or three years together. The fear of not being able to sell them before they rot, discourages their cultivation, and is, perhaps, the chief obstacle to their ever becoming in any great country, like bread, the principal vegetable food of all the different ranks of people."—*Wealth of Nations*, vol. I. p. 251.

But, let the potato farina be generally substituted for oat-meal, and this discouraging obstacle will, in a great measure, disappear. The farina may be stored in casks, perhaps, for any number of years; and may, like corn, become an object of extensive commerce.

Although potatoes delight in a dry, deep, sandy loam, they may be profitably raised on almost any soil whatever, provided the culture be judiciously adapted to the nature of the given soil. They materially improve a stubborn white clay; darkening its colour considerably, and thereby rendering it more capable of absorbing the rays of the sun. On such soils, they might be planted in the same field successively, for some years together. The improvement, both of the soil and of the crop, would be rapid and progressive.

W. C.

NOTE

NOTE BY THE CONDUCTOR.

THE general object of the above paper is entitled to much commendation, though we cannot, in every instance, defend the principles urged by our worthy correspondent, or support several of his calculations: As, for instance, he states that eight labourers will consume 8769 lib. (62½ bolls) of oat meal, in a season, for breakfast and supper; whereas the quantity paid to eight labourers is no more than 52 bolls; and with this quantity, they not only support themselves, but their families also. Again, the price of oat meal is charged at 3½d. per lib.; whereas oat meal has not, in many places, been higher than 2½d., and at the very most 2¾d. per lib. this season. Notwithstanding these remarks, which we were in duty bound to offer, the general principles of our correspondent's paper seem well entitled to public consideration. N—

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

THE proceedings of the *Workington Agricultural Society* having of late greatly attracted public notice, on account of the ardent spirit and judicious measures to introduce and promote improvement, displayed by the President J. C. CURWIN Esq., I am led to suppose that you will confer a favour of considerable value upon your readers, by inserting the first part of the President's Report for the year 1808. In that report, the President displays a knowledge in rural art not often possessed by men of his exalted rank, and evidences a marked and perspicacious discernment of the obstacles in the way of improvement, seldom exceeded by a professed economist. Were the majority of British landed proprietors to come forward with heart and hand to support agriculture, as has been done by MR CURWIN,—were even one half of the numerous agricultural societies which swarm over Britain, to be under the guidance and direction of men gifted with the same talents, incalculable benefits would follow to the public interest. I just mention these things; though, probably, on an after occasion, I may enlarge my observations.

I am yours, &c.

AGRESTIS.

The President's Report.

ALL eſtabliſhments which have, in any material degree, proved inſtrumental in benefiting mankind, inſpire a lively intereſt and deſire to trace the circumſtances which led to their commencement

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and formation. We are anxious to learn whether they were copied from ſocieties preeſtabliſhed, or were inſtituted on the ſpur of the occaſion to meet and remedy grievances, or promoted with a view of forwarding plans of general benefit and utility. Where the period of eſtabliſhment is remote, it may be difficult to aſſign the motives; not ſo, however, to form a tolerably correct judgement of the opinion of the times, by attending to their progreſs.

Societies that have had the good fortune to inſpire a warm and active zeal in every individual concerned, will be characterized by the rapidity and extenſiveneſs of their effects. The ſcale of their influence is not to be computed by the ſphere of action of the body; it will imperceptibly compel others to act, and thereby make them inſtrumental in promoting its intereſt. This affords a ſatisfactory ſolution of the rapid improvement your ſociety has effected, in ſo ſhort a ſpace of time: the unexampled ſpirit that marked the commencement of your inſtitution, afforded a data to juſtify the moſt ſanguine hopes of the reſult. What might not be expected from ſuch a combination? Impelled to act from conviction of the benefits which were to ariſe to all concerned, as well as to the community at large; uninfluenced by power—untinctured by party,—there was nothing to prevent, and every thing to promote, unanimity and cordiality of ſentiment. Happily, this is exemplified; each ſucceeding year has ſtrengthened the bonds, and enlarged the ſphere of our union.

The ſentiments which prompted you to ſanction and ſupport this eſtabliſhment, enſured your cooperation in forwarding the object it had in view. Each of us felt we had a duty to perform; and conſidered the credit and reputation of the ſociety as a joint and common ſtock. How gratifying to me to have, in the preſent year, ſuch ample and creditable proofs of your ſucceſs to ſubmit to you! Theſe are acknowledged, in moſt inſtances, to have ſprung from your example and exertions.

At the ſame time that I feel this a ſource of honeſt pride, highly creditable to you, it affords me a further ground of ſatisfaction, in removing from my mind all anxiety and fear that your intereſt and reputation ſhould ſuffer by any inadequacy of mine in the diſcharge of my duty. My taſk is rendered light; ability could add nothing to the ſimplicity and clearneſs of the ſtatements of the various experiments.

I ſhould be inexcuſeable were I to omit ſtating, that your public ſpirited exertions have not paſſed unnoticed or unapplauded, in various parts of the kingdom. I will not diſguiſe my feelings on the credit which has been given you; truſting, upon this, as every other occaſion, our ſentiments will be in uniſon. I am proud that the ſpirit and good ſenſe of the yeomanry and farmers in Cumberland and Weſtmoreland, uninfluenced and unſolicited,

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ſhould have produced the moſt numerous Provincial Agricultural Society in Great Britain. Indulge me in the wiſh, that each ſucceeding year may add to the reputation of the ſociety; and that the conviction of agricultural being the baſis both of individual and public proſperity, may give additional energy to all our exertions.

The eſtabliſhment of your ſociety commenced at a period highly propitious to the intereſts of agriculture. The recent alterations which had been made in the laws, reſpecting the export and import of grain, had given a ſpring to the exertions and induſtry of the farmer: an advance in the price of wheat, was the infallible conſequence of the change. Much land was brought into cultivation for wheat, which, prior to that period, had either remained in paſture, or been employed ſolely for raiſing oats; the return being ſuch as would not repay the farmer for growing wheat. At the ſame moment, advance of rents, with great increaſe in the taxes, preſſed ſo heavily as not only to compel greater exertions, but to point out the neceſſity of having recourſe to a ſuperior ſyſtem of cultivation to ſupport thoſe additional burdens. The check ſuſtained in our manufactories and foreign commerce, has operated to deſtroy the deluſion under which the nation had long acted, and contributed to prove the importance of agriculture, and that the ſtrength and riches of a country are not conſtituted ſolely by foreign trade. Happily, we have been undeceived with leſs loſs and miſery than moſt commonly are attendant upon great and important revolutions. The importance of agriculture is univerſally felt, and the reſult has produced a general ſpirit of improvement, in every part of the empire.

How fortunate muſt every thinking mind eſteem the happy lot of Great Britain, compared with the reſt of the world! Whilſt war has ſpread devaſtation and miſery over the fineſt parts of Europe—not a hamlet, not a village of this favoured land, which does not preſent ſtriking marks of improvement. Let me aſk the oldeſt, the moſt experienced, if what has paſſed within their recollection,—if the hiſtory of former times, ever exhibited ſuch proofs of energy and exertion, or afforded any thing to compare with the advances now making in agriculture? The neceſſity of the times, that impoſed ſuch heavy burdens of taxation, has inſpired a ſpirit alſo which will, I truſt, not only carry us through the arduous conteſt, but leave the nation poſſeſſed of means, if wiſely and honeſtly directed, of improving the ſituation and comforts of all ranks, from the peaſant to the prince. It is impoſſible not to feel the protecting hand of Providence, which has, in ſo ſhort a time, enabled Great Britain to produce the grain requiſite for her own ſupport. But a very few years ago (ſince the

the commencement of the present contest), in prosperous seasons, a twelfth part of our consumption was imported; in the two years preceding the last, a twenty-fourth; in the last, though there was a failure in the barley crops, likewise in those of potatoes and pulse, with losses from a bad harvest, the pressure has not, except in some parts of Scotland, been severe. British grain (most providentially for us) has been found sufficient to answer all our demands.

The export of grain from Ireland has greatly increased. Much are we indebted to the improvements of our sister kingdom. The benefits derived by Great Britain from Ireland, must induce a cordial and hearty wish, that wise and enlightened measures were adopted, to give full scope and energy to the cultivation of that most valuable part of the empire. We may adduce, as a proof of the general spirit of improvement, the passing of eighty-two acts of enclosure in the last session of Parliament.

Amongst the various causes which are at this moment contributing so materially to the improvement of the counties of Cumberland and Westmorland, it would be inexcuseable not to notice, or omit paying the tribute of praise, so justly due, to the general disposition evinced by the great landed proprietors, in favour of enclosures of wastes, and commuting tithes. Nor can we overlook a still more important source of general benefit, which will spring from the liberal policy of emancipating the arbitrary and customary tenures. The Earl of Lonsdale could have adopted no measure more calculated for the general advantage of the two counties, or which has a stronger claim to their commendation.

We may justly remark Mr Wakefield as one of the first and greatest improvers in Westmorland. He has made a surprising change in the appearance of his extensive property at Brecks-Hall. There is something very singular in the history of this estate. It was sold, thirty years ago, for nearly 9000*l.*, and five years since for the same price; notwithstanding the possessor had expended considerable sums in fruitless endeavours to improve it. Thus, whilst all other properties, within the same period, were doubled in value, and many considerably more, this one made no advance whatever. No wonder it should be supposed to be under the curse of barrenness. The good sense and judgment of its present proprietor, soon discovered that it was destroyed by the effects of water, and was entirely incapable of improvement till it was effectually drained. This has been done to a considerable extent; and every acre drained is immediately rendered of double its former value. The cost of draining is under 2*s.* a rood. It now bears very good

crops of clover, and all kinds of grain. The farm yard is ver complete, and has every possible convenience for tyeing up ninet head of cattle: these are wintered on the same system Mr He therington adopts.

There are upon this farm 40 acres of turnips under most ex cellent management. Mr Wakefield is determined to adopt system of soiling, which will enable him to add considerably t the scale of his improvements.—The plough had never, formerly gone deeper than five inches; the soil is now turned up fro ten to twelve, which is found to have a most admirable effec Mr Wakefield has it also in contemplation to irrigate about 5 acres. When his improvements are completed, the value of h estate will be more than doubled. Fortunately this property ha fallen into hands possessing spirit, good sense, and ample mean to make these judicious and advantageous improvements; whic will not only amply repay the proprietor, but afford an exampl highly interesting and beneficial to the public. It would b much to the advantage of such gentlemen as are engaged in ex tensive cultivation of waste lands, to pay particular attention t what Mr Wakefield has done. In wet lands, unless drainin precedes, all other attempts at improvement will fail; and aft the parties have expended considerable sums, they will have th mortification to find not only their time and money thrown awa but their ground deteriorated.

The increase of grain from what was recently waste, mu prove a source of great and general benefit. The market of Ke dal alone may expect, this year, upwards of 4000 quarters o grain from the Haversham enclosure.

The turnip crops, between Appleby and Temple-Sowerb were generally excellent, though the culture was slovenly. The are before other districts in the extent and growth of this valu able root. They have yet, however, to learn, that besides th increase obtained by the cleaning of turnips, the advantage to th succeeding crops of barley and clover can scarcely be estimated.

The Rev. Mr Philips, the vicar of Appleby, has cultivated lu cerne with much success; and corroborates the great advantage of this plant. Unless the ground be perfectly clean it will no answer; and where hands cannot be commanded, I would no recommend it. By good management alone it is made productive

Mr George Atkinson, of Stain Gills, has accomplished a grea deal in a very short period, and brought his farm into a ver clean and good state of cultivation. His crop of Swedish tu nips are the best in the country. To have a clean farm will ex hibit something new in that district. I am satisfied, however he will not be long without imitators; for his crops, in con sequence of his superior management, will be so much bett

than his neighbours', as to awaken attention to their own interest. Mr G. Atkinson has drained a great deal; the benefit of which is very apparent. The cost of lime is such, as to induce him to make but little use of it. He has resolved upon adopting soiling, in order to facilitate his means of increasing manure, as well as for turning his produce to the greatest advantage.

Of intended improvements, none appears more praiseworthy, or to reflect greater credit on the individual, than the proposed irrigation of a considerable plot of ground (belonging to Sir Philip Musgrave), which joins the river Eden, by the present farmer, Mr Richardson of Culgaith. So spirited an improvement, undertaken at the sole expense of the tenant, cannot escape the notice of the proprietor, or fail of insuring him the reward of such meritorious conduct.

Many of the new enclosures of Inglewood Forest, in the neighbourhood of Penrith, have most weighty crops of turnips. One cannot but lament there should be any drawback from the pleasure such a sight occasions, by the dirty and neglected state they are in.

Mr Machell appears to have accomplished a great deal, in a very short period, upon his farm at New Plains. I was so unfortunate as not to find him at his farm, which prevented my examining what must be so interesting to every friend to agriculture. A few years will exhibit as striking a change in the face of the country between Penrith and Carlisle, as has ever been made in any part of the kingdom.

Much is likewise doing on Broad Field. Mr Oliphant is making preparation for extensive improvements; and, judging by what he has done, I doubt not he will adopt a judicious method of bringing this waste into cultivation.

Mr Brougham has displayed great spirit, and accomplished much. Fifty acres of most thriving plantation surround his property, and will add much to the ornament, value and advantage of his farm. Whilst I express my admiration of Mr Brougham's spirit and perseverance, he must excuse me if I entertain some doubts of his systems being the best calculated to carry his own meritorious intentions into execution. Draining appears as necessary for his land, and would be as advantageous as it has been found on Mr Wakefield's. Most heartily do I wish him success; and greatly shall I rejoice to find I have misconceived, rather than he has mistaken, the nature of his soil.

I had an opportunity of being again gratified with the view of Flin Hill, the farm of Mr Yarker. This hill, which, in its former state, would have been too dear at 4*l. per annum*, has, this season, produced a crop worth 400*l.*:—five acres of potatoes,

worth from 20*l.* to 25*l.* per acre; thirteen acres of oats, five o them admirable—many of the stems had three hundred and twe ty grains on a single stem; ten acres of clover, from which fo ty-seven cart-loads of hay was produced on the first cutting, th second proving a tolerable crop; six acres of turnips; two acr of fallow. Mr Yarker's brother has great merit, likewise, the improvement he has made of waste ground. Two suc meritorious examples, it is to be hoped, will have their effect u on the neighbouring country. Low Furness, for its extent, is rich a plot of ground as any in Britain; and, with equal trut the husbandry may be ranked as strikingly defective as the soil excellent.

At Hill Beach farm much has been done: the farmer had, th year, eighty acres of turnips, or a sixth of his farm, in gre crop; but, for want of proper convenience, he can neither tu his turnips nor clover to the best account; and unless that defe be remedied, he will fall deficient in producing manure, and will be impossible for him to continue his present system.

Mr Ormandy of Glison Castle soiled, this year, an acre and quarter; fed eight horses, for six weeks, on the first cuttin nine, for the same time, on the second; and will be able to c it again. Being asked, what he considered the value of an ac of clover for soiling, he answered, 20*l.* or upwards.

Eight horses six weeks, at 4s. per week per horse				L.9 12
Nine	do.	do.	do.	10 16
				L.20 8

I doubt whether there would be many farmers in England ab or who would have been willing, to give so candid and fair account.

In the first report upon this subject, when I made a simi statement, few people gave me credit for being correct. W such corroboration as this report contains, incredulity can o proceed from extreme ignorance.

I was greatly surprised at seeing several instances of most c ditable farming in the midst of the most execrable husbandry, the same farm. How any person who has had the resolution a perseverance to do any thing well, can endure to see his clo filled with every kind of weed and filth, is what I do not co prehend, nor can I offer any rational conjecture upon it. Abs dant crops under bad management, merit the strongest repreh sion. In good soil, no fear of an ample return can be entertа ed: bad and uncertain soils, though they will repay good h bandry, are attended with risk, and claim more allowance;— the other case, none can be pleaded, nor ought to be tolerated

The reverend Mr Ellerton of Colton proceeds with his usual spirit, and had admirable crops of all kinds. His glebe was, a few years ago, given up by the tenant, as too dear at 20*l. per annum*; last year, he sold to the amount of 50*l.* of carrots, which will convey some idea of what he has done. His example has had a powerful effect in promoting and extending improvement. Mr Knott, his neighbour, has this year green crops that would be remarked and admired in any country, and such as are not to be met with in many districts where the land is of four times the value of his soil, which was twelve months ago a waste.

Near Santon-Bridge there are some crops of turnips under admirable management. As this is the first attempt in this part of the country, the success which has attended it will, I trust, encourage the proprietors not only to perseverance, but to extend their exertions.

Till gentlemen become engaged in farming, they are not sensible of the time, exertion and capital necessary to bring foul and impoverished land into order. It is my firm belief, that nothing tends to benefit the farmer so materially, as the practice of agriculture by gentlemen. Look at those counties where it is little practised by the great landed proprietors, and you will find farming in its worst and lowest state.

Could such a character as that of the late Mr Overman have been drawn forth to act under a system of rackrents and annual leases? Impossible. He saw, under a lease of twenty-one years, there was a fair opening for improving his fortune, by the expenditure of a considerable portion of it on his farm. He did not shrink from making, at his own sole expense, twenty miles of quick fence. With the same spirit and intelligence, he frequently purchased, in one year, manure to a greater amount than his rent, confident it would in time repay him. Alas! this excellent man has paid the debt of nature; leaving a numerous family to lament a most meritorious and affectionate parent,—his landlord and other friends, a man of distinguished probity and superior sense,—the public, one of its most spirited and scientific agriculturists.

Mr Benn of Middleton-place, has made great improvements since last year. The scale of his green crops is much enlarged; the only fault in those of the last season was, as he observed, "In there being too little of them." His cabbages are the best in Cumberland: I did not expect he would so soon have accomplished his determination, of surpassing those at the Schoose. I give him, with pleasure, the credit so justly his due, and conjure him to proceed, not only with a view to the advantage he will individually reap from it, but the effects it will produce upon

his neighbours. They cannot be so blind to their own interest, as not to follow an example that answers so well, and makes such an ample return of profit.

The meadows on which he has made such judicious use of the mole plough, are trebled in value within the last three years. To those who doubt the effect produced by this simple machine, (which drains at less than 4s. per acre), I strongly recommend their viewing them: the time and trouble this may take will be amply repaid: by comparing the meadows drained, with those that are not, they will be able, at once, to judge of the benefit produced. This practice may be termed, next to irrigation—the greatest improvement that can be made, with the least expense.

Mr Benn has made a small experiment with carrots; his success will induce him to extend the cultivation of this useful and valuable root another year. His potato crop was very good. His turnips will be a weighty crop; the season prevented their being as clean as it is the interest of every farmer to have them. Mr Benn soiled four milch cows, the condition of which greatly surpassed the rest of his stock. This experiment has determined him to carry it to a great extent another season. I think I am justified in anticipating that this practice will be, very shortly, general in the northern counties.

Mr Benn's barley, though an abundant crop, was much lodged. Happy is it when good arises out of the evils of life,—it has determined him to adopt the drill, which will be of great use: no country seems more adapted for this husbandry. I could not, without regret, see so many crops lodged, which would all have been up-standing, had they been drilled.

There is no praise I can bestow which is not justly due to the meritorious exertions, made by Mr Benn and his sons. I feel impatient to extend similar commendations to all his neighbours; not one but may double the value of their property, by trusting their lands, for a few years, with the loan of what may be necessary to bring them into cultivation: the first operation must be draining; till this is effected, nothing essential can be done.

I do fully expect Mr Pickthall will, in the course of another year, demonstrate what may be effected by complete draining.

The crops of Swedish turnips have been, generally, good this season.

Mr M. Hartley of Rose Hill, had a very weighty crop: the general scale of his green crops was creditable. Most sincerely do I wish, that some spirited individual (and no one more likely than this gentleman) would undertake a dairy, on an extensive scale, for the purpose of supplying milk to the town of Whitehaven. Experience enables me to state, the profit would amply repay

repay the expense and trouble. I am equally confident (which will be a more powerful inducement), that nothing more effectually promotes the interests and comforts of the labouring classes of the community.

I look with confidence, that a continuance of the present exertions, for a short period, will exempt Cumberland from the reproach of standing almost invariably distinguished for the highest prices of grain in Great Britain. Who can see, without the most heart-felt gratification, the rich and abundant crops that already adorn and beautify many of the newly enclosed districts? Those numerous acres in Inglewood Forest, at Dalston, and in various other parts of the county, that hitherto furnished a scanty pittance to a few miserable sheep, now producing grain sufficient for the support of thousands of the human species. Nor is our admiration to be confined to what has been reclaimed: the improved system, in various parts of both counties, in the management of old enclosures, challenges particular admiration. What agriculturist will not be delighted to trace improvements in districts where, we have reason to suppose, good husbandry has been hitherto as little known as practised?

Mr Spedding of Mire-House, has, for some years, given an admirable specimen of improved husbandry. I congratulate him that it has not been without effect. The crop of potatoes of his neighbour, Mr Jacob Younghusband of Little Crosthwaite, is highly creditable. I can, with pleasure, declare I saw nothing better done in my whole journey from the south. Whether the merit be due to the father or son, or both, it becomes not me to inquire. I confidently trust, however, the result will determine both not to lose the credit they have obtained.

A very considerable plot of turnips, on Sir Frederic Vane's domain, at Armathwaite, was equal, in crop and management, to any I have seen in the extensive circuit I have made.

To Mr Hodgson of Blennerhasset, great merit is due; and in no situation, in Great Britain, did it require a more determined spirit to commence improvement. The obnoxious weeds that overrun this village and its environs, infinitely out-number what I ever observed. Were the seeds of the docks converted into half-crowns, they would, I verily believe, afford a sum sufficient to *discharge the national debt!!!* Without having seen them, no adequate idea can be formed of their quantity. In such a situation, I should recommend to my worthy friend, after having completely eradicated his own weeds, to adopt the plan of a most amiable and highly respected nobleman (Lord Crewe), who had complained of the injury, both in example and effect, of a very negligent tenant that tolerated every weed:—remonstrance producing

ducing no effect, an indictment was presented at the Court Baron; the complaint was substantiated, and the culprit fined some gallons of ale. The fine was paid; and the reform, which friendly admonition failed of producing, was most completely accomplished by ridicule. Heartily do I wish to see the experiment tried; and no place seems to demand it so imperiously.

Amongst the most meritorious of gentlemen agriculturists, we must place Mr Boddington, tenant of Millar-Ground, near Hawkshead; his crops of potatoes and turnips, in general, do him infinite credit, and exhibit a specimen of good husbandry where it was greatly wanted; and, I hope, it will not fail of producing its effects in the farmers around him.

The management of Mr Graham of Barrock-Lodge, is such as to challenge the attention of every traveller who passes that road —come from what country he may.

There appears an increased attention to the cleanness of the potato crop in every part of the country. In the district of Wigton, there are many well managed crops of potatoes. It must be a great pleasure to every one who wishes to see the cultivation of the country promoted, to observe the preparations making by Sir Wastall Brisco, Bart. of Crofton, for that purpose. The example of every intelligent and spirited agriculturist, is a source of public advantage.

Mr Dyke's drilled oats surpassed his former crops. His judicious use of the drill must contribute greatly to introduce it into practice in Cumberland. Mr Wood of Cockermouth, and various others, who adopted it in consequence of what they have seen at Dovenby-Hall, have succeeded most completely. Their crops were reported as deserving of particular notice and attention. If my ability was equal to my wishes, I should have had the greatest pleasure in personally inspecting every farm, where improved agriculture has been introduced.

I am perfectly aware, there are many meritorious examples I might, with propriety, have brought forward for public approbation; but the limits of the report neceffarily circumfcribe what is the moft pleafing part of my duty.

I cannot omit noticing a very great impediment and difcouragement to growing green crops, near to towns; I allude to the fcandalous depredations committed; which practices, I am concerned to ftate, are not confined to children, whofe inexperience might offer fome apology. It becomes abfolutely neceffary fome means fhould be taken to put a ftop to proceedings not only injurious to the farmer, but likewife to the intereſts of the labouring claffes. Whenever an improved fyftem of agriculture has been introduced, it has been the means of creating a great additional

ditional demand for labour. I appeal to thoſe who are acquainted with the Schooſe, for the truth of this aſſertion. If one farm can give bread to ſo many, what would be the conſequence were all lands, adjoining to towns, under a ſimilar mode of management? The plan I ſhould ſuggeſt is either a general aſſociation by the ſociety, or a particular one in every pariſh, for the purpoſe of proſecuting all delinquents: the fine to be 10s., with a power in the magiſtrate to mitigate it to 5s. A very few examples would ſtop the thoughtleſs; and ſociety would have great reaſon to rejoice, that the firſt deviations from honeſty ſhould be detected, expoſed, and puniſhed. What renders ſome ſteps being taken more abſolutely neceſſary, is, that thoſe who are leaſt able to defend themſelves, are the perſons moſt expoſed to depredations. Since the above was written, the ſociety has unanimouſly approved the plan ſuggeſted; and no time ſhall be loſt in carrying it into effect, ſo far as it reſts with me.

The general ſpirit of improved huſbandry, is not confined to any one branch of agriculture. Attention to ſtock is conſidered an object of the firſt importance: much pains have been, and are now taking, to unite early maturity with propenſity to fatten. The ſame qualities are equally ſought for in the breed of ſheep, combined with a ſuperior fleece. The recent improvements of the ſtaple, have been ſuch as not only to equal but to ſurpaſs the wool exported from Spain.

Great advantage has, likewiſe, reſulted from the attention paid to the breed of ſwine; and in no animal is there a greater difference:—whilſt one ſtock is highly profitable, another conſumes, in fattening, as much or more than it is worth.

Theſe are objects very well deſerving of your attention; and the annual exhibition affords opportunity for your making obſervations, and acquiring information, with more convenience, and at leſs trouble, than you could do by any other means. This is no inconſiderable advantage reſulting from agricultural meetings.

The experiments already made in ſoiling cattle, are highly intereſting. The one, the commencement of which you have witneſſed, will, I truſt, be not unworthy of your attention. It has a diverſity of objects in view. It purpoſes, in the firſt inſtance, to aſcertain, as far as one experiment can do it, the diſpoſition of various breeds of cattle to fatten; at the earlieſt period,—what is the conſumption of food and water by different ſtocks,—what are the moſt advantageous modes of proportioning dry and vegetable food: To decide, likewiſe, the weekly advance in weight,—to mark the profit and loſs, which has, in no inſtance, been ſatisfactorily done by any previous experiment,—and to point out the value and neceſſity of economy. The advantage of ſoiling, in preference to grazing, has been ſtrongly demonſtrated by what has already been done.

To

To expect that one, or even a number of experiments, ſhould decide theſe various and important points, is neither looked for, nor deemed poſſible. To change eſtabliſhed opinions is a work of time and perſeverance: could they be effected with the ſame facility which marks the common occurrences of life, the miſchief would be infinite. A great length of time is requiſite to pronounce decidedly on the merit of any experiment: the firſt attempts to carry into effect moſt of the great diſcoveries in arts and ſciences, have been very imperfect; to bring them to perfection has taken a conſiderable period, and ſeldom or ever been the fortunate lot of one individual. To fix the attention of the public, is the main object; and to engage the community imperceptibly to conſider the queſtion, is the utmoſt that is propoſed.

The improvements made in huſbandry implements, have contributed greatly to facilitate the perfect and complete cleaning of land, which is, by all agriculturiſts, conſidered as one of the moſt important objects in farming. Every thing which economizes labour, eſpecially in the operations which are diurnally repeated, is deſerving of the greateſt attention. Whatever may be the firſt coſt of any implement, it is ſoon repaid when in daily uſe: the ſaving the work of a horſe of value fed with oats, cannot be accounted leſs than 50l. *per annum*, eſtimating every article of wear and tear, and allowing for the riſk and decreaſe of value in the animal.

Should we be juſtified in pronouncing the beſt conducted farm in Great Britain, perfect in all that relates to economy of labour, and feeding of ſtock; I can boldly affirm, I know of none where great and important retrenchments, in both reſpects, may not be made. I aſſume, and that not lightly, after the beſt attention in my power to give to the ſubject, that both farmers and gentlemen agriculturiſts have it in their power to make great ſavings.

The eye of a good housewife cannot endure dirt; nay, it is ſo ſenſitive, as to anticipate, and take measures to prevent it. Who does not admire and applaud ſuch conduct? Is not unproductiveness and waſte as repugnant to good ſenſe, as the other is to feeling? How comes it, then, that the eye of a farmer ſhould be ſo differently conſtructed, as to bear with the deformity of a thiſtle or a dock in a rich and abundant crop? Whenever I ſee ſuch things exiſting, I am irreſiſtibly led to regret, the individual had not the good fortune to be placed in a ſituation to have his attention occupied in purſuits more congenial to his taſte.

Agricultural meetings ſhould not be conſidered as confining our views to exhibitions of ſtock, crops, and implements; but ſhould extend to the whole detail of the uſe and employment of the produce. In my humble opinion, the individual who

displays

displays the most order, regularity, and attention to economy, is the person to whom the palm for good husbandry should be awarded. What is effected solely by expense, creates no emulation; what springs from attention, order and arrangement, commands admiration; and there are few who can refrain, when they see things well done, from feeling some mixture of envy.

The waste, visible in the management of many gentlemen agriculturists, would be an abundant source of profit to a farmer. To witness this in the farms of men actuated by the most honourable and patriotic motives, occasions the greatest regret to the friends of agriculture, and inspires an ardent desire to put a stop to it, by a faithful representation of the real causes of their losses and disappointments: few are in a situation to permit their being so candid, as to speak such unpleasing truths.

Such are the observations which have occurred to me; and it is with the utmost deference I submit them to the Society, confiding in their past indulgence. I may have erred; but I have, on every occasion, spoken my sentiments divested of partiality or prejudice, and with no other view than that of a faithful discharge of my duty, and an anxious desire to contribute my mite in promoting the views of the Society. Few will question the advantages which have already been derived from your association; and I ardently and confidently hope, they will be, every year, more conspicuous.

Detail of an Experiment in Soiling and Grazing.

By Mr Curwin.

(Extracted from the *Proceedings of the Workington Agricultural Society.*)

No object is of more importance to the farmer, than the choice of his feeding and wintering stock; much of the profit of his green crop depending upon the facility with which they fatten, and are kept in condition. The greater the stock which can be maintained, the more manure will be made. If there be one breed of cattle which will, with less consumption of food, gain more than another, that is the stock every farmer should wish to have. Though no proposition can be more self-evident than this, nor calculated to command a more general and ready assent, yet, strange as it may appear, nothing hitherto has been less attended to. There is not one valuable experiment extant upon the subject;—such as have been made are given in so vague and crude a form, as to preclude any practical information being drawn from them.

Amongst

Amongst the many causes of regret for the loss of that valuable friend to the public, and to the agriculture of the country, the late Duke of Bedford, this may be reckoned one. His ardent and indefatigable mind was actively employed on this important subject; and had he lived, he would have ascertained the matter, and, by a series of judicious experiments, have left no doubt on a point of such moment.

Experiments, to be useful, require the whole detail to be given. The consumption of food lessens as the animal increases in fatness: it is therefore impossible to form any just calculation from a portion only of the time of feeding;—repeated statements of weight are necessary to determine the progressive advancement, and to mark the period when there is no longer a gain adequate to the food consumed. Advance of markets may counterbalance and make up the loss on this head: no particular rule, therefore, can be fixed as to the time of selling; but every one must judge from the particular circumstances of the case. It is of great consequence to the farmer to know the relative worth of his respective crops, and what advance he can make upon each, in order to decide upon their value.

These subjects were first suggested to me by that spirited and intelligent farmer, Mr Bates of Halton Castle; and the importance of them appears in my view to increase, from the little I have done in the course of this summer, with a view of determining the comparative increase of weight that may be obtained by soiling and grazing. The little I have learnt augments my desire of proceeding; and I flatter myself, the experiment I have undertaken, and of which you have seen the commencement, will tend to throw some light upon the subject. In the mean time, I beg leave to lay before the Society, the result of the trial in soiling and grazing for fat.

In all experiments, there is much attention requisite not to suffer one's self to be deceived; for, whether the public be misled intentionally, or for want of proper caution and care, the effects are the same, though the motives may be widely different. The strongest reprehension is due to error, from whatever cause it proceeds.

The experiment was made between two Kyloes. The one was ten or twelve years old, and had had a number of calves; the other grazed, was four years old, having had no calves. The advantage was supposed to be wholly in favour of the younger animal. It appears reasonable, that the period most favourable for fattening, should be as soon as the animal had arrived to its full growth.

Experiment

Experiment made to determine the respective increase made by Soiling and Grazing, commencing the 14th of May, and concluding the 1st of October 1808, being a period of 140 days.

Soiled Kylo weighed *(first weight)* 66 stone.
Grazed Kylo weighed (ditto) 57.

KYLO SOILED.

Date.—May 14.	June 27.	Aug. 4.	Aug. 23.	Sept. 6.	Oct. 1.
Weight.—66 st.	74 st.	74 st.	77 st.	78½ st.	82 st.

No.	No of days betw. each weighing.	Increase in each period.	Aver. gain of whole per day.
		st.	*lb. oz.*
1	44	8	2 8
2	9	0	0 0
3	29	3	1 4
4	19	1½	1 1½
5	14	1½	1 8
6	25	2	1 2
	140	16	1 9¾

A considerable deduction must be made from the apparent gain of the second period of weighing. I should suppose one might strike off all above what appeared to be the average gain upon the third period of weighing, when the animal may be conceived to have taken fairly to feeding. There appear the strongest grounds for believing that it is weight of entrails, not of carcass; as the gain of the first fortnight bears no proportion to any subsequent one. When confined, the animal digests his food less rapidly. Upon this principle, I strike off 3 stone 13 lib. in valuing the soiled kylo; and after the same rate in the estimate of the long-horned and other soiled kyloes.

Food Consumed.

No	Periods.	Daily.	Total.
	days	*st.*	*st.*
1	40	7	280
2	30	5	150
3	70	4½	315
	140		745

		l.	*s.*	*d.*
Increas'd wt. of soil'd kylo, taken at 12 st. 1 lib. at 4s. 8d.		2	16	4¼
2d. per lib. between lean value and fat	7 · 14 · 0			
			10	10
745 st. clover, at 1d.	3 2 1			
280 lb. oil-cake, at 1d.	1 3 4			
30 st. of chaff	0 2 6			
			4	7
		L. 6	2	5½

All the animals soiled drank about two gallons of water per day, except when the clover was cut and brought in wet.

KYLO GRAZED.

Days grazed.	Total Increase.	Increase per day
140	9 *st.* 9½ *oz.*	15½ *oz.*

Increase of carcass (loss taken at 2 st.) 7 st. 9 lib. at 4s. 8d. per st. -	*l.* 1	*s.* 15	*d.* 8
2d. per lib. on first weight	6	13	0
	8	8	8
1 acre of grass (I think insufficient)	4	4	0
	L. 4	4	8

The soiled kylo pays nearly 3d. per stone for the clover consumed, or after the rate of 33l. 12s. 6d. for an acre of 23½ tons; the grazed kylo pays 8l. 8s. 10d. per acre. The manure in soiling is supposed equal, at least to the labour. What allowance, if any, should be made for the manure scattered by grazing, I am not prepared to say. The grazed kylo was thrown considerably back by the red water; the soiled kylo lost nine days by being removed into too warm a shed. It seldom happens dissimilar objects can be brought into perfect comparison. I shall fairly state the facts, drawing the conclusions that strike me;—leaving every one to exercise his own judgment, and either to receive or reject them.

Result of Slaughtering the two Kyloes.

SOILED.

When taken from food.	24 h. fasting.	72 h. fasting.	total loss before killing.
Weighed.—82 *st.*	75 *st.* 8 *lib.*	69 *st.* 9 *lib.*	12 *st.* 5 *lib.*

	st.	*lb.*
Carcass - - -	45	7
Loose fat - -	7	3
Blood - - -	2	3
Feet - - - -	0	13
Paunch, water, &c.	7	1
Head, heart, &c.	2	6
Hide - - - -	4	4
st.	69	9

Supposing the calculation of weight to be made, as I believe is the case, when the beast has been fasted, and in a state proper to slaughter, the kylo will have done well.

Carcass -	52 *st.*	10 *lib.*
Offal - -	16	13
st.	69	9

This Kylo leaves a profit, per day, of 10½d.
Grazed—7¾d.

GRAZED.

Weight on food.	After being fasted.	Total loss.
66 *st.* 9½ *lib.*	55 *st.* 9 *lib.*	11 *st.* ½ *lib.*

	st.	*lib.*	*oz.*
Carcass - - - - -	36	8	8.
Loose fat - - - - -	4	1	8
Hide and offal - - -	14	13	0
st.	55	9	0

Carcass -	40 *st.*	10 *lib.*
Offal - -	14	13
st.	55	9

A further Experiment was made with a long-horned Cow, Eight or Nine Years old, which had had several Calves.

Date.—	July 11.	Aug. 3.	Sept. 7.	Oct. 1.	Oct. 17.
Weight.—	75. st.	84 st.	86 st. 7 lib.	88 st.	89 st. 5 lib.

No.	No. of days betw. each weighing.	Increase in each period.	Aver. gain of the whole per day.
		st. lb.	*lb. oz.*
1	23	9 0	5 7
2	35	2 7	1 0
3	24	1 7	0 14
4	18	1 5	1 0
	100	14 5	2 4

Statement of the Expense and Gain.

Increased weight (deducting 7 st. 1 lib.)	*l.*	*s.*	*d.*			
5 st. 13 lib., at 4s. 8d.	1	7	8			
2d. per lib. between lean value and fat - -	8	15	0			
				10	2	8
764 st. clover, at 1d.	3	3	8			
300 lib. oil-cake, at 1d.	1	5	0			
50 st. chaff, at 1d. -	0	4	2			
				4	12	10
				L. 5	9	10

Food Consumed.

No.	Periods	Daily.	Total.
	days.	*st.*	*st.*
1	32	9	288
2	50	7	350
3	18	7	126
	100		764

The first period of increase goes strongly to establish the principle I have adopted, as to estimating the value of the increased weight from the third period of weighing.

Result of slaughtering the long-horned Cow.

Weight from food. 89 *st.* 5 *lib.* | When killed. 80 *st.* } Total loss. 9 *st.* 5 *lib.*

	st.	*lib.*
Carcass - - - - - -	46	5
Loose fat - - - - -	3	7
Blood - - - - - - -	3	0
Offal - - - - - - -	23	2
Hide - - - - - - -	4	0
St.	80	0

	st.	*lib.*
Carcass - - - - - -	49	12
Offal - - - - - - -	30	2
St.	80	0

Profit per day, 1s. 1d.

It is evident the estimated value of the carcase of the long-horned, is too high: the kylo sells 1d. per lib. at least, dearer. The original weight gives the result of profit, which is little short

of the kylo; when there is no comparison in offal to carcass. The long-horned consumed a greater weight of food in 100 days, than the kylo did in 140.

The progress of the experiments created that degree of interest that made me anxious to proceed further: in consequence of which, I caused six very moderate three-years-old Highlanders to be tied up, the 27th of June, and fed them for the greatest part of the time with grass, cut from hedges, plantations and walks, considered of little if any value. This experiment is highly satisfactory. How much food of this kind does every farmer waste! and, which is worse, suffers it to seed and multiply weeds! My first object in cutting my hedges, was, to destroy weeds: the appropriation of a great deal of the worst grass to any beneficial purpose, was an after-thought. For the last month they have been fed with carrot and turnip tops. I had no straw to spare, yet they have maintained their condition: One that appears to have failed, took the sore mouth, but has killed extremely well.

Calculation of the Increase upon the six Highlanders.

	June 27	July 6	Aug. 3	Aug. 23	Sept. 6	Oct. 1	Nov. 2
	st.	*st.*	*st.*	*st.*	*st.*	*st.*	*st.*
1	35	39	43	44	45	48	47
2	36	41	44	48½	49½	50	51
3	37	41	44	46½	48½	48	47½
4	38	42	45	47	48	50½	52
5	38	41	45	46½	47½	49½	50
6	35	38	41½	44	45	46	46½
	219	242½	268	276½	283	292	294

Estimated gain of the six Highlanders.

Periods	Increase in each.	Daily Increase.
days.	*st. lb.*	*lb. oz.*
9	23 7	6 1½
30	20 7	1 7½
18	13 7	1 12
14	6 7	1 3
25	9 0	0 13
39	2 0	0 2
135	74 0	1 4½

Increase of kylo (loss taken at 2st. 5lb.) 9st.

	l.	*s.*	*d.*
12lb. at 4s. 8d.	2	2	0
2d. per lib. on first wt.	4	1	8
			l. 6
135 st. of green food	1	7	6
50 st. of steamed chaff	0	4	2
50 lib. of oil-cake	0	4	2
			1 15 10
			l. 4 7 10

Cost of Feeding one Highlander.

Days.	Daily.	Total.	at ½*d.*
135	4½ *st.*	607 *st.*	*l.* 1 7 6

Weight of Kylo.

from fd.	Before kill.	Loss.
46½ *st.*	39*st.* 6*lb.*	7*st.* 7*lb.*

Slaughtered

Slaughtered Weight.

Carcass - - - - - - -	23 *st.*	4 *lib.*	Carcass - - - -	26 *st.*	6 *lib.*
Loose fat - - - - - - -	3	2	Offal - - - - -	13	0
Hide - - - - - - - - -	3	5		*st.* 39	6
Offal - - - - - - - -	9	9			
st.	39	6	Nearly pays, per day,		8*d.*

Whatever difference of opinion may arise as to the mode of calculation and the *dates* assumed, I conceive the advantages of soiling to be so apparent, that no one can question them, either as applied to feeding horses, milch cows, or to fattening. The communications received from various quarters, fully prove the rapid progress it has already made. The benefits that will result from soiling to the general state of cultivation, will be greater than I should think it prudent to state (under all the indulgences I might expect) to the full extent of my opinion.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the best Rotation of Crops on a Light Soil, where the Climate is damp and late.

SIR,

I LATELY happened to get one of your Numbers into my hands, where I observed (as far as I can remember) that it was proposed to give a prize to whoever should point out the best rotation of crops for a light soil, and a late and damp climate, wheat making always one of them. Without entering the lists for the prize, I shall take the liberty of giving my own practice, which is, indeed, somewhat opposite to the general theory, as well as custom, of the country: but I can nevertheless aver, that I find it successful, and that few of my neighbours have better crops, or on so easy terms. The farm is, in general, of a light and sharp soil, much intermixed with pebbles, and of a tolerably good quality. My endeavour is, never to crop it severely; for, if I did, the ground would become much too tender, and, in doing so, the dung or manure would with great rapidity be wasted into the substrata, and of course soon be lost. On the field which I intend to break up from grass, if possible, in the previous year, I lay on about four or five chalders slacked lime per acre on the sward, though it happens, sometimes, that this cannot be accom-

plished. The lime renders the ground free, and tenders the herbage. I give it a single furrow in October, or early in November, and sow it with wheat; harrowing it in as rapidly thereafter as possible, and giving it somewhat more seed than after fallow or potatoes: the return is in general from nine to eleven bolls per acre. The second crop is potatoes and turnip. In preparing the ground for that crop, I gather off the quickens and root-grass, making these articles into a compost, with as much lime as to rot it sufficiently. The potato and turnip lands get all the dung of the farm, and the crops turn out in general remarkably well, being kept clean at very little expense, on account of the quickens having been previously gathered off. My third crop is potato-oats, or barley, with which grass seeds are sown; and to it the rotted quickens are applied, which greatly aid the barley and grasses. These are generally cut for two successive years, and afterwards pastured four years. By this mode, my expense for manure and labour is not great, while my crops are all good. The practice of sowing wheat on a single furrow from old leas, I know is reprobated by many; and, were my soil either heavy loam, clay, or inclining to till, I would by no means prescribe it. But I will venture to say, that, on a light soil in good order, and well matted with grass, it is in a better state for wheat (which delights in a firm compact soil) than even after a fallow. My practice is, to plough in oats and barley, in place of sowing in the usual way. The advantage resulting therefrom is, that, from the increased weight of cover thereby procured, the grain does not lodge: in fact, it is giving to light land the benefit of a heavy soil. There are some farmers of opinion, that cutting hay for two successive years is scourging the ground; but experience leads me to form a different opinion. It is an undoubted fact, that I have for ten years cut a crop of hay from dry meadow, as it is called, without manure; and had generally from 150 to 200 stones per acre; and on breaking it up afterwards, had a heavy crop of oats. The land was not naturally rich, but in pretty good order when laid down.

G. J. D.

QUERY.

WHAT may be the expense of enclosing 200 acres of land, either in Berwickshire or East Lothian, supposing the situation of the land to be square, and that the whole is divided into eight enclosures of 25 acres each; the same to be enclosed with stone walls, lipped with lime, and seven quarters in height?

BRANCH

BRANCH II.

Review of Agricultural Publications.

Result of an Inquiry into the Nature and Causes of the Blight, the Rust, and the Mildew, which have particularly affected the Crops of Wheat on the Borders of England and Scotland. By Sir John Sinclair, Bart. M. P. &c. Edinburgh, Constable & Co. London, Cadell & Davies. 1809.

In a season of such unexampled distress to the growers of wheat, when pestilence, blasting, and mildew, raged through the land, threatening destruction to the crop, and famine to the people,—the respectable President of the Board of Agriculture could not remain idle and unconcerned, or suffer these calamities to pass by, unheeded and unobserved. From the treatise before us, we observe with satisfaction, that Sir John Sinclair, whose talent for investigating rural and political subjects is sufficiently established, has not, on the present occasion, either neglected his duty, or disappointed the expectations of his friends. On the contrary, with that diligence and activity which strongly mark his character, and constantly insure success to his proceedings, the moment that information reached him of the calamitous situation of the wheat crop, Sir John circulated various queries among his agricultural correspondents; all tending to elucidate the nature and cause of the diseases to which wheat is liable, and to ascertain how, and in what manner, these diseases might afterwards be best prevented. He also visited and inspected the wheat crop of the several districts where disease raged with the greatest virulence, and, in short, took every step which could be taken to throw light upon the subject which occupied his attention, and which, confessedly, was one of the first importance to the public welfare. In the present publication, we are favoured with the result of his Inquiries; and he has added to that favour, by presenting us with a copious Appendix, containing much interesting information, received from his correspondents; the whole serving to throw more light upon the diseases of wheat, than has been hitherto furnished by any other writer.

Though we highly applaud Sir John Sinclair for attempting to ascertain the nature and causes of the diseases of wheat, and the most suitable remedies, because no subject was more deserving of his attention, we are very apprehensive, that the diseases of last year must be ranked as incurable, and of so virulent a nature, as

to be equally as much beyond the reach of human assistance, as a galloping consumption, or confirmed water in the chest, are in the human frame. Some of these diseases were new, therefore imperfectly understood; and many of them were of a complicated and abstruse nature, presenting symptoms quite different from those formerly known in this country when the wheat crop was in a diseased state. The worst sort of disease neither proceeded from rust nor mildew. In fact, the parent plant decayed, and, in many instances, died before the young grain had assumed a perfect shape; of course, the death of the parent necessarily prevented the young grain, or progeny, from making the slightest improvement afterwards. It was evident, that the young grain, in many cases, did not get beyond what may be called a state of *embryo*; while, in others, what may be considered as conception had not taken place, or, at least, if it had taken place, was followed by abortion. We offer these remarks, in illustration of what is stated respecting the complicated and abstruse diseases of last season, and not with the slightest view of impairing or lessening the merits of Sir John Sinclair, when endeavouring to investigate them.

In a former volume, when examining the doctrines of that respectable gentleman and eminent philosopher, Sir JOSEPH BANKS, we took occasion to explain our sentiments on the diseases of wheat at considerable length; and maintained, that every disease to which wheat is liable, (that of smut excepted), proceeded from an unhealthy atmosphere; and that heavy rains, or continued wetness for any considerable length of time, when the processes of conception or maturation were going forward, necessarily occasioned mildew, or some other disease; and that the consequences of disease were either less or more fatal to the crop, according to its healthiness at the time, and to the stage of its growth when the hostile weather commenced. These opinions were greatly strengthened by the circumstances of last season. In no year has the wheat crop of this country appeared more healthy and flourishing, especially upon loams and clays, than in the last one, at the time when rainy weather set in. The ear was large, and had blossomed in the most complete manner. The fœtus of the young grain was in general finely formed, and in some cases had half arrived at the stage of maturity. From these circumstances, a pleasant and agreeable prospect was furnished to the farmer; though, unhappily, his hopes of receiving an abundant crop were in a little time most completely disappointed. The rains, which commenced nearly over the whole island on the 24th July, and continued, with little intermission, till the 13th August, being accompanied with close, warm weather, engendered a kind of putridity in the atmosphere, highly pernicious to vegetable life.

By

By consequence, every field of wheat suffered. With some fields, particularly those situated upon the sea-shore, a partial loss was only sustained;—with a majority, the loss was something like one third of an average produce;—but with others, the loss was almost a total one;—a circumstance never before known in this country, so far as our recollection reaches. Many fields did not return half a crop, even where neither blight, nor rust nor mildew, were discernible. No doubt, the generality of these fields assumed a blackish or morbid hue at the conclusion, which of course was called Rust by some people: but this discolourment ensued from the juices of the plant having previously become putrid and corrupted; and, evidently, was rather the effect than the cause of the disease which had seized upon the plants, and annihilated their powers.

We are perfectly aware, that many fields of wheat were in a languishing condition before the rains arrived, having suffered from the uncommon heat which previously prevailed; and that such fields suffered most from the wetness afterwards. These circumstances, however, do not in the least invalidate a single opinion which we have either at this time or on a former occasion delivered. That plants are hurt by too little as well as by too much moisture, is an incontrovertible truth; though evil, in the first case, much seldomer happens than in the other. A man may be killed by excessive drinking; and the same effect may be produced by withholding drink from him altogether. Should drink be withheld till a man is enfeebled and weakened, and a plentiful supply be then administered, it is plain, that his body will be more easily overpowered, than if drink had been regularly given in proportion to his wants, and his body preserved in a healthy and vigorous state. Arguing from analogy, we may say, that the wheats on clay and loam soils were in full health when the rains set in, having never wanted moisture,—therefore, only suffered in a partial manner afterwards; whereas, many of the dry fields, which were previously stunted in their growth from want of nourishment, fell victims at the first attack, being feeble before hand, and utterly unable to withstand the force of the disease.

The most of these opinions are powerfully supported by the majority of Sir John Sinclair's correspondents, whose returns are furnished in the Appendix to the Inquiry which now occupies our attention. An instance may be given from the communication of a Mid-Lothian farmer.

"In my opinion, the bad quality and deficiency of the wheat crop this season, are solely occasioned by the wet weather, and want of sun, when it was in bloom. I do not recollect, at any season of the

year, the earth being more completely filled with water, than it was at that period; by which means, I conceive, the roots of the wheat were so over moistened, as to occasion a check or decay in the whole stalk; and by the straw being thus injured, it was incapable of bringing the ear to maturity. I cannot say, that I observed what is called a *mildew*, at any period, upon my wheat, although it is of a very inferior quality to what it has been in former years.

'I beg to add, that my wheat in Ayrshire, this season, is of a better quality than my wheat in Mid-Lothian; which I attribute solely to there not having been so long a continuance of wet and close weather, in Ayrshire, as in Mid-Lothian.' App. p. 50.

Our worthy and respectable friend, Mr Thomas Scott of Craiglockart, one of the most intelligent farmers, not only in Mid-Lothian, but almost in any county, expresses himself distinctly and correctly concerning the general diseases of grain, and particularly concerning those which befel the wheat of last year, in the following letter to Sir John Sinclair. There may be a shade of difference betwixt the sentiments of this truly respectable agriculturist, and those we maintain; but the difference is immaterial.

'The great interest you take in rural concerns, leads me to flatter myself, that the following remarks and observations, will not be unacceptable.

'The middle of August last, I made a short tour through the counties of Tweedale, Roxburgh and Berwick, where the wheat fields were in general in a most deplorable state, especially in the valleys on the rivers Tweed and Teviot. They were all of a brown colour, many of them dead ripe, and not a third filled. I was informed, before setting out, of the circumstance, and that the cause was ascribed to a fly which, upon inspection, I found lodged in a few of the grains of some heads, but not in every head, or even on the greatest part of those inspected. It was a very small animal indeed, very unlikely to be adequate, by its feeble efforts, confined in a grain or two of a head, to have arrested vegetation, even in the stem it was lodged in, much less to have done so in those where it had never approached.

'Damp, hazy easterly winds, have rarely failed to bring rust and mildew on the wheat crops, and retard their filling, in proportion to the time they continued. In such instances, the injury used to be only partial; the crop lodged, where weighty, or destitute of free air; the grain hungry, and part of the head empty; while other parts of the field, where there was more air, or the crop less luxuriant, were tolerably good, and fewer empty husks; or when mildew took place, it was only a few grains that were affected in the same head, which had been rendered stationary, and, in filling, fell into decay, and became a prey to the animals; while all the other grain filled as if no such event had happened. Nor was every head so seized.

But

But the malady which attacked the crops last season, operated in a more masterly style; not only was every grain of a head, but every head, in fields of many acres, reduced to the same level,—not a single stem or grain to be found that had escaped the disaster.

'It occurred to me, that the penetrating pestilent nature of the easterly fogs, had operated upon the valleys of Tweed and Teviot, as early frosts annually do on potato crops, by the sides of streams and marshy grounds. Of this, however, I was soon undeceived, as high situations were in no better plight than those that were lower. Upon inspecting two fields of wheat on the same farm, the one 100 feet higher than the other, so different was it from what I conjectured, that the grain in the lower field, was tolerably well filled; and in the other, a field of six or seven acres, not one grain could be found *one third filled*, or one head in the whole field better than another; the straw being dry, covered with a greenish glaze, as if varnished over. Whatever may have been the cause, the phenomenon bore striking marks of aërial agency, and sudden severe shock.

'Some were of opinion, that the long dry weather, before the rains commenced, had made the crop ripen, before the grain was full; and indeed the inferior quality of what was cut first, from early parts of fields, where there was no want of moisture, was found to be rather worse than better, without the appearance of insects, or animal of any kind, on either stem or roots.

'We not unfrequently ascribe the decay and fading which take place in plants, to insects, and other animals, that lay hold of them in that state, which could not have been there had the plant continued to thrive. Nothing can show it more clearly, than what has so generally been the fate of bean crops, in the end of July, or beginning of August, when sown on thin, heavy, moist soils, partly dunged, and partly not, if much rain fell at that season. The undunged part, rarely failed to fade and decay, becoming black with small insects, and withering away; while the crop on the dunged part, kept thriving, and not a single one of those insects to be seen on a leaf, although the stems of the one were waving across the stems and leaves of the other.

'That insects, and other animals, prove destructive to crops, has, no doubt, been often severely felt, but seldom if ever leaving sensible and satisfactory marks of the means by which the injury was effected; either the tender shoots seem to be all over as if they had sprouted; or if after, when further advanced, total decay takes place, the stem will be found, at one part or other, to have been gnawed asunder, thereby depriving it of its future nourishment from the root. Still, in both these cases, the cause is obvious.

'Plants also fade and decay, and, not unfrequently, from getting either too much moisture, or being deprived of it. By the last, the soil is rendered impervious to the fibres that absorb nourishment, or where enough cannot be had for conveying it. By the first, the fi-

bres are paralyzed, and rendered unfit to perform their functions. Both these last cases admit of remedies. Draining the ground, manuring with proper substances, and good cultivation, will prevent cohesion getting to the pitch it otherwise would, as well as render light gravelly soils more susceptible of retaining moisture, and moist soils more porous, and the plants less liable to be surfeited, being stouter and able to absorb it. Nay, even insects and other animals may be rendered less destructive, by having recourse to particular modes of cropping; but rust, mildew, and the other effects of unfavourable weather, as well as the cause by which the crops suffered so much this year, seem beyond human remedy, and not within man's controul. Such phenomena operate obscurely, and leave great scope for conjecture.

'The diseases that have attacked crops of grain in late years, and the manner these crops fell into decay, have been so unprecedented, as almost makes us suspect this planet had altered its course, or some pestilent vapour haunted the atmosphere. The peas and bean crops in 1807 were, in many instances, partly reduced suddenly to a state of decay; and what continued to vegetate, seemingly unhurt, produced but a scanty increase of hungry grain. No insect was to be seen in either leaves, stem or root; but a small maggot, less than a coriander seed, amongst the mould, such as are frequently found where the roots of plants are mouldering to earth, but neither of size or number in the least degree likely to accomplish what took place in the bean crops that year, more than the small red fly that attacked the wheat crops this year, when vegetation was instantaneously arrested in whole fields, that decayed as rapidly as if the crop had been separated from the roots. Nor was the phenomenon confined to crops of wheat only. All other grains were found to have suffered less or more, and seemingly in all situations. Beans, though better filled this year than last, are far from being so prolific as their appearance promised, or the favourable weather gave cause to expect; and their decay, in the end, was unusually rapid, without an insect of any kind to be found in any part of the stem, or in the ground. Barley underwent the like process, early becoming of a deadish white colour, ripening faster than it filled, and, of course, the grain inferior to that of seemingly more unfavourable seasons.

'The old Scotch proverb may be applied as some consolation for the disaster that befel crops of beans in 1807, that "there is never a great loss without some profit." The ill-filled hungry grain of that season afforded decided evidence of the superiority for seed that well-filled grain has over lean; which was conspicuous in every field where both had been sown, notwithstanding its being so much controverted, a few years ago, by authorities of weight. I made fair trials on three fields, by sowing well-filled seed of crop 1806, and lean seed of crop 1807. That part of each that was seeded from crop 1806, was, from its first appearance, far more luxuriant, and continued so as if the one had been plentifully dunged, and the other had got none.

Over-

Overgrowths, or topers, whether of the animal or vegetable tribes, never fail to keep the advantage in growth they first set out with. The shoots from plump seeds are surely better calculated for pushing in search of nutriment, than what is to be expected of grain of meaner quality. Whatever foundation there may be for this idea, yet, notwithstanding the apathy so prevalent in former ages, we can hardly conceive, that men who discerned and searched out the soils calculated to make the best returns for their labours, as appears pretty evidently from what they had been in use to cultivate, would have suffered themselves so long to be at the unnecessary expense and labour of procuring seed of superior quality, had inferior grain been equally profitable. It may not be improper to remark, that, to avoid one extreme, we often run into another; and as want of enterprize kept improvement long nearly stationary in former times, there is some risk, in our day, at being misled by the force of novelty: therefore, not only should the most plausible inventions be duly proved by experiment, before being to any extent adopted, but all dogmas likewise.' p. 71—74.

We are not altogether sure whether the deductions of Sir John Sinclair from the papers communicated to him, are in all respects correctly given. The first section of his Inquiry may serve to elucidate our meaning.

'There is no plant grown in Britain so liable to disease as Wheat. This may be easily accounted for, from the circumstance of its being introduced into this country from a better climate, where the seasons are more regular and less subject to wet and cold, the principal sources of those disorders to which this species of grain is liable: and where, however strange it at first may appear, the wheat is exposed *even to less heat;* as, in the more southern climates, it is in general ripe or out of danger before the more violent heats commence. From the abstruseness of the subject, the real nature and causes of these disorders have not as yet been fully and accurately ascertained. Indeed, they are sometimes to be ascribed to various causes operating at the same time; and the same plant may often be affected with different disorders; but, on the whole, they have been attributed to one or more of the following circumstances. 1. Heavy rains: 2. Fog or mist: 3. Dew, or gum: 4. Frost: 5. Heat: 6. Lightning: 7. Calm weather: 8. Enclosures: 9. Improper manuring: 10. Too frequent repetition of wheat crops: 11. Soil: 12. Elevation and exposure: 13. Insects: and, 14. Fungi, or parasitical plants.' p. 8.

We have always understood, that the small size of the pickle or grain of foreign wheat, and the disposition which it possesses to absorb moisture when manufactured into bread, proceeded entirely from the excessive heats under which it was ripened. Look at American grain, and say whether it has not been ripened under a much hotter sun than is generally felt in Britain. Look at any foreign grain, no matter from what country it comes, and the like question may be put. We would enter upon the subject at greater

greater length, could there be the slightest reason to suppose that doubts were entertained concerning what we have now stated.

With regard to the first cause of disease, Sir John is quite orthodox. He says,

'The generality of those who have communicated to me the result of their observations regarding the causes of the diseases of wheat, in the course of the last season, have attributed them to wet weather and heavy rains, which commenced about the end of July, and continued, with very little intermission, for several days.* These rains are represented as having prevented the process of maturation from going forward,—as having washed away the *pollen*, or *farina fecundans*, which prevented the florets from being fecundated;—as keeping the roots of the plants in many soils in so wet a state, that it occasioned an abortion in the ear,—and as frequently lodging the corn; in which case, unless elevated again by the wind, it could never reach maturity: in short, that mildew is owing to wet, damp weather, and the straw being filled with moisture.

'These observations are corroborated by other evidence. For instance, Du Hamel states, that heavy and cold rains, when the corn is in bloom, may hinder the grains being impregnated; as happens under similar circumstances to grapes, which then remain small, and without juice.† According to Tull, long continued rains rot and chill the blossoms of wheat, and prevent their fertility.§ Dr Home justly observes, that too great abundance of juices must occasion stagnation, corruptions, water-shoots, &c.'‡ p. 9, 10.

On the second and third causes of disease, Sir John also speaks correctly. We shall extract the passages which relate to these causes; but are sorry our limits preclude us from examining the remainder.

'Not

* See Appendix, p. 4. "My general opinion is, that a long continuance of wet weather, after the wheat had got into the ear, is "the principal cause of the mildew:" Mr Hall.—"A blight in "the ear, occasioned by heavy showers of rain while the wheats were "in full flower:" Mr Kerr, p. 16.—"On the 22d of July commenced a long continuance of rainy weather:" Mr Low, p. 16.—"The general opinion in this neighbourhood is, that the mischief is "to be attributed to the rains which fell towards the latter end of "July; and the same effect was produced, under circumstances apparently similar, four years ago, in many of the midland counties "of England:" Dr Douglas, p. 23.—"The general opinion is, "that the mildew was occasioned by cloudy and rainy weather;" p. 25.—See also p. 26. 31. ("a kind of abortion takes place in the "ear when the wheat is soaked with excessive rains." p. 25.) p. 39. 40, 49, 50, 57. Mr Grierson, p. 49. ascribes the failure of crop 1799, entirely to the wet summer.

† Mill's Husbandry, from Du Hamel, vol. ii. p. 420.

§ Horse-hoeing Husbandry, p. 143. 4th edit.

'Not only heavy rains, but even fogs and mist have had the same effect of producing diseases in wheat, more especially when the weather is hot, and accompanied by little wind. There are two sorts of those fogs, one of which comes from the sea; which, though very thick and strong, yet, it would seem, that it does not injure the crop near the sea-shore, though it occasions considerable injury in the more inland parts of the country. The other fog arises out of the ground. It is called, in some parts of Scotland, the *ground reek*, (probably reek or smoke), and strongly resembles a thick smoke, arising from the surface of the earth.

'Other evidence supports the same idea. According to Du Hamel, the rust is owing to dry, *gloomy* weather happening when the corn is at the height of its vegetation. Tull observes, that the rays of the sun are necessary for keeping the wheat healthy and strong, as it is doubtless the native of a hot country. Any thing, therefore, that interrupts the rays of the sun, must be injurious to that grain. And in America the mildew is attributed to the fogs and heavy dews, which come on as the season advances. Sometimes the fogs and mists are so close and thick, that the air seems in some degree to have lost its elastic powers, so that neither animals nor vegetables can thrive in it.

'*Dew or Gum.*—It is certain that plants are frequently injured, by a dewy moisture which falls upon them. That moisture may be described, as a composition of all the watery, oily, and saline vapours which exhale from the earth or the sea, which, in the daytime, are kept suspended by the heat of the sun, but, during the cold of the night, fall to the surface of the earth, and are deposited on the leaves of trees, upon the ears of corn, &c.; and being of a clammy and glutinous nature, they check the perspiration of the plant, hinder the circulation of the nutritious sap in the proper vessels, and bind up so closely the tender ears of wheat, as to prevent their growth, and the filling of the grain or pickle. As water-mills are commonly placed in very low situations, and as such dews are usually exhaled from flat grounds, and are generally again deposited upon them; hence, probably, originates the name of *Mildew*. Home describes this dew as a gluey saccharine matter, falling with a summer shower, and blocking up the perspiration of the plant.

'In an interesting communication from the county of Caithness, the mildew is attributed to a close gluish fog, of a whitish colour, which arises from stagnated water or swamps, and discharges itself in the low ground, according to the direction it takes. It immediately stops the vegetation of the grain, if it is in a milky state, and, in the course of ten hours, the ear begins to look bleached, and of a pale white. The straw is affected by it as well as the ear. If there is sunshine next day, the damage is certain; but it does little mischief, if there is damp or rainy weather the day following.' p. 10—13.

One of the means of preventing mildew, strongly recommended by Sir John, is early sowing. If the commencement of rainy weather

weather could be restricted to the 24th July, (as it was this year), early sowing would undoubtedly be a most effectual preventive; but we have rainy weather often much earlier,—very often by the 1st of July,—sometimes, though not very often, in the end of June: and rains at these times would have exactly the same effect upon early sown wheat, with what they have, in the end of July, upon that sown at the customary time. If we are not mistaken, Sir Joseph Banks, in his small treatise, asserts, that wheat sown in the spring season 1804 escaped mildew. Now, what was that owing to? Why, just because the grain was not in an embryo state when the rains prevailed.

Another preventive recommended by Sir John, is the use of saline manures. On this point, our knowledge is too limited to warrant a decisive opinion. What Sir John says is, however, entitled to respectful consideration; therefore the following passages are extracted.

'In order to ascertain the effect of salts on vegetables, let us consider the advantages derived from the use of it to the animal creation. It certainly affords no kind of nourishment, nor will it digest; for it passes unaltered through all the strainers of the human body; but, as the celebrated Haller justly observes, it is of use, by stimulating the secretions, by promoting a free perspiration, and by preserving bodies from corruption and putrescency. In these respects, vegetables may derive benefit from a moderate quantity of it, as well as animals. If the dews, by the clamminess of their nature, check the perspiration of plants, salt is likely to restore it; for persons who have a clammy skin, owing to their abstaining from the use of salt, have their perspiration restored when they return to the use of that article. It is well known, that when mildew attacks wheat, the straw becomes perfectly rotten: nothing but salt, then, can prevent that corruption.

'If the diseases to which plants are liable are produced by insects, there is reason to hope that salt, used in a judicious manner, would render the juices of the plants too acrid for them.

'Sea-ware, and other saline manures, might also have a tendency to strengthen the plant; and there can be no doubt that plants in full health are better qualified to resist disease, than when they are in a weakly and debilitated state.

'Such were the reasonings in favour of the advantages of saline manures, when fortunately some facts were transmitted to me, by Davies Giddy, Esq. Member for Bodmin in Cornwall, which seem strongly to corroborate that idea. The following is an extract from Mr Giddy's letter, dated the 24th November, 1808.

'Mr Henry Sickler of Gwinear has written to the following effect:—"You know, when I took Trenearth, it was entirely spent. The first thing I did was, to go over it with turnips. The manure was twenty-five bushels of salt, of 84 lib. each, per acre. Wheat followed; and I never had a rusty straw, when the ground was so managed.

managed. One field of six acres, that was not worn out so much as the rest, I put into peas, followed by wheat: the crop rusted so badly, that I had not five bushels on an acre, and the sample was a very bad one. Next, turnips after the wheat, with the usual quantity of salt, succeeded by wheat;—a very heavy crop;—no appearance of rust. This field, in my course of crops, has since been three times in wheat, without the least appearance of rust; nor have I found a rusty straw in any of the fields salted for turnips; whilst on the lands of Coswinsawsen, which were not salted, some have appeared. It never occurred to me that salt prevented the rust, until I saw your letter; but now it strikes me very forcibly, that salt prevents its appearance. I should be very glad if I could speak more fully to the subject. This is all I know at present; but I am determined to try some new experiments for a wheat crop."

'It must be remarked, that the salt used by Mr Sickler was previously employed in curing pilchards, and therefore probably contained some oil. Refuse salt from the pilchard fishery is completely free from duty.' p. 48—50.

The same subject is again noticed in a postscript to the work. Without observation, we shall lay before our readers the queries sent to Mr Sickler, and the answers returned by him to Sir John Sinclair.

'*Query* 1. What is your mode of using salt as a manure for turnips?—*Ans.* I have farmed this estate seventeen years last Michaelmas. It was spent with tillage when I took it, and all the straw carried off from it for a number of years. I went over it first with turnips, winter fallow, twice ploughed in May, sown with 25 bushels of salt, of 84 lib. each bushel per acre, about a fortnight before the turnips are sown. This was my practice, until I went over all the estate, except one field, which I put into wheat without turnips or salt, of which I gave Mr Giddy an account. Since that time, my course of crops is, first, wheat; then turnips on the wheat stubble the following summer; then barley, with seeds for three, four, or five years, before breaking again for wheat.

'*Query* 2. Is it a usual practice in Cornwall, or only adopted by yourself?—*Ans.* It was first introduced by myself, but it is now become a more general practice.

'*Query* 3. What is the kind of salt used, the number of pounds in each bushel, and the price, *duty included*, and what would be the price without the duty?—*Ans.* The kind of salt is what has been used to cure pilchards. The number of bushels, and of pounds in each bushel, already answered. The price, when I first used it, was 6d. per bushel; but now it is from 9d. to 1s., since there is a greater demand for it. Some of it they lay on the fish twice, which is not so valuable as that which is used but once, as there is more of the strength of it spent on the fish. It makes from 1d. to 3d. a bushel difference on the price. There is no duty on this salt. It is bought at home for about 2s. per bushel by the fish curers; but the greater part import their salt from Liverpool, at which place it does not cost

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them more than from 9d. to 1s. per bushel. After it is done for curing fish, an officer examines and condemns it, and then the owners sell it for manure. Before it was made use of in this way, they used to throw it in the sea.

'*Query* 4. What is the weight of the crop produced, and is it equal to that with dung?—*Ans.* I never weighed a crop. The crops equal to any dung crop.

'*Query* 5. Were the turnips drilled or broad-cast?—*Ans.* Broad-cast twice, and three times hoed. The drill has been used by one farmer these two years; and I think it will be in more general use, as it is a great improvement on the broad-cast.

'*Query.* 6. How long is the benefit of the manure experienced; and can dung be safely used afterwards without occasioning mildew?—*Ans.* I have farmed this estate seventeen years, as I said before, and have found it always improving. I have tried it for a corn crop, sown as in Query 1st, and don't think it has so good an effect for that crop, as when mixed with dung, earth and sand; but the effects of it on the clover, in the barley stubble, is astonishing. Some of my land I have not salted these seven years, but can plainly see the effects of it, in the grass and corn, till this time. Some of the land that was not worth 5s. per acre, when I first took it, has carried, this last harvest, (the third crop, without any manure for either of them,) forty-eight Winchester bushels of barley per acre. And, to give you some idea of the improvement of this estate, it is now let for 130*l.* *per annum*, and it only cost me 50*l.*; and, when I took it, no person would give any thing for it. The proprietor kept it in hand one year; in which time he published it four times to be let, and no person attended the survey. Notwithstanding the increase of rent, I believe any man would do very well on it; and I think that the increase in value is owing chiefly to the above management. I never use dung for wheat, but spend it all for potatoes and top dressing.—Never had any mildew on the land that had been salted for turnips, but have had it in land that was never salted.

'*Query* 7. Is the salt found to be an effectual preventive against the mildew, whilst the neighbouring fields are subject to that disease?—*Ans.* The mildew is very bad on some estates in this neighbourhood, but not with turnip farmers. I have inquired at some of them that have been in the habit of sowing salt for turnips; and they all agree, that they never had any mildew where they have sown salt for that crop; but, before, they were greatly affected by it.

'*Query* 8. Does it suit strong as well as light soils?—*Ans.* I never saw it tried on heavy or on light soils but it had a good effect.

'*Query* 9. Has it been tried with potatoes, or any other crop?—*Ans.* Sea-weed always makes the potatoes waxy, and we think that salt would have the same effect, so we never try it.

'*Query* 10. Does Mr Sickler think it calculated *for universal application?*—*Ans.* So far as my experience extends, I think there is no greater improver of land, as in answer to Query 6.

'I wish I could say any thing more satisfactory on the subject, but

but cannot at this time. I mean, however, to make some other experiments on salt. If there is any thing more I could be useful to you relating to our Cornish husbandry, I should be glad to communicate it.' p. 65—68.

The limits of this Number preclude us from laying before our readers any more of this interesting performance; but from what we have already stated, it is probable they will in some respect be capable of appreciating its merits. Upon the whole, we think well of it; though, had Sir John Sinclair trusted more to his own, and less to the opinions of other people, the congruity of the Inquiry would have been more strikingly manifested. We must dissent *in toto* from what is said concerning the injury committed by fungi, or parasitical plants, thinking the respectable author has on that subject mistaken effect for cause; and fallen into an error something like what would happen with the physician who attributed fever to spots upon the body, instead of considering these spots as signs or effects of the disorder which affected the blood or juices of his patient. No doubt, the President of the Board of Agriculture has less faith in *fungi*, than his brother who presides at the table of the Royal Society; because Sir John Sinclair has long kept better company than Sir Joseph Banks. We beg pardon; —we mean, that the former gentleman has associated and conversed more with practical farmers than the latter; therefore, must necessarily be better acquainted with rural practice in every respect. The great merit of Sir Joseph Banks, both as an acute and enlightened philosopher, and as a well-informed gentleman, cannot be questioned; but, with submission, it is no disparagement on him to be ranked as inferior to his brother President in the knowledge of agriculture, because the latter has, for the long period of fifteen years, made that art one of the chief objects of his studious attention. To Sir John Sinclair agriculture is more indebted than to any other man in Britain, without exception. And while at all times warmly disposed to bestow our mite of applause upon that gentleman for his continued and unwearied exertions to serve the public interest, we are equally ready to point out any error he may fall into; conscious that, with him, error is unintentional; and that the alone object which animates his heart, is a desire to promote improvement in an art which he very justly considers as the main prop of national prosperity.

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BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

THE general aspect of rural matters through the winter qua was neither pleasant nor comfortable, threatening much injury to the public and individuals. Frosty weather, uncommonly tense, set in about Christmas, and with some abatements conti to the second week of February, whereby field labour was al completely impeded; whilst live stock, whether consisting of c or sheep, suffered materially. Along with severe frost, heavy of snow were also received; and these, at going off, being succ ed less or more by rain, occasioned losses in many places excee any hitherto known. In several English counties, damage was tained by floods, in January and February, to an unprecedentec tent. In short, winter, like the three preceding quarters, prese most uncommon weather. The heats of June and July were more inconsistent with the general temperature of British clin than the tempestuous storms of December and January.

Grain has not altered much in value since our last publica the markets having been fully supplied; while not a great deal been done by those who are in habits of speculating, with a vie obtaining profit afterwards. Indeed, much of the grain is c indifferent a quality, that small temptation was held out to t dealers to enter with keenness into a trade undoubtedly hi beneficial to the public interest. Without it there would l scanty supply in summer, when grain is mostly out of the mer's hand; whereas, when speculation prevails at the time v the greatest part of grain is generally brought to market, the little chance that scarcity will be felt during the summer mo Whether the stock in hand will be found equal to the summer mand, is a problematical point, and one concerning which it w be the extremity of rashness to offer an opinion. Markets, how of late, have shown a disposition to advance, especially in the art of wheat and oats, which are of general consumption: And as a g part of the former grain is of inferior quality, many people dread the supply will scarcely be equal to the demand of the country be next crop is harvested.

The dependence placed upon America for a supply of whea completely at an end for this year, owing to the embargo, what is called the Non-intercourse Act. As every port is now against Britain whence bread-corn can be obtained, the truth of opinion first pronounced in the report of the Lords' Committe Trade, 1791, viz. that Britain does not produce grain sufficient supplying its inhabitants, will soon be brought to the test.

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doubt, many substantial improvements have since that time been introduced into the agriculture of Great Britain, which have occasioned a considerable increase of agricultural produce. The thrashing-machine has at least increased the amount one-twentieth above what would actually have been marketed, had grain continued to be thrashed by the flail; and this, of itself, furnishes a quantity much above any that has been imported in the most disastrous season. Perhaps suitable attention has not been paid to this circumstance by those who maintain, that the island cannot raise food equal to the consumpt of its inhabitants. On the other hand, population has also increased since the period condescended upon; and perhaps, from the increase of luxury, the like population requires, at this time, a greater quantity of grain to meet the existing demand. Without pronouncing any decisive opinion as to these matters, the test already mentioned may be safely referred to. If Britain this year furnishes a sufficient supply for the consumption of its inhabitants, the slightest doubt cannot remain concerning the ability of the country to support itself in ordinary seasons; for the crop of last year, particularly that of wheat, was indisputably much inferior to what is obtained in an average of seasons.

The distillation from sugar still proceeds, and that from grain continues to be prohibited. Perhaps the prohibition, under existing circumstances, is wise and salutary; though, if so in Britain, it must surprise every one to notice that an attempt was lately made to remove it in Ireland. The reason assigned for a removal was, that distillation from grain went on in spite of the prohibitory law, and that no sugar had been used in that country. That this would happen, every person in the least acquainted with the state of Ireland knew very well before the prohibitory law was passed; therefore, by analogy, the proposed repeal should likewise have been extended to the Highlands of Scotland, as suggested by an Honourable Member, where an ounce of sugar has not been distilled, and where distilling from grain goes on something in the same way as usual. The business, in fact, was taken up as a revenue question, and not as one which related to supplying the people with bread-corn, or relieving the distressed planter of the West Indies. There is not a doubt that the situation of the latter was the cause which produced the prohibition. The Minister trusted that sugar would be used by every one as a substitute for grain in the distillery; and if the revenue did not suffer, he cared not whether the saccharine substance, which lulled and intoxicated the people, was drawn from the one or from the other. He found that revenue was not to be obtained from the distillery in Ireland, unless grain was allowed to be distilled; therefore attempted to withdraw the prohibition, notwithstanding that grain is both scarcer and higher priced than last year, when the prohibitory bill was passed. Had the British distillers refrained from using sugar, there is every cause to believe, that the like indulgence would have been held out to them as was most benevolently intended for their Irish brethren.

There is not a single branch of British trade that will meet w more injury from our present restricted communication with reign countries, than the flax and linen trade; because it be impracticable this year to procure seed for sowing the gro usually destined for producing that useful and necessary cle. It was very consolatory, no doubt, to receive informa from the Noble Peer at the head of the Board of Trade (as c municated in a late debate), that plenty of flax seed might be pected from Canada by the middle of next June, at which pe the blossoming of the crop would, in common seasons, be at hs Perhaps the Noble Peer believed it was a matter of little importa whether the plant blossomed at one time or at another, provide did blossom. But as matters of this kind are rather too deep fo we shall content ourselves with the following illustration, whic not altogether irrelevant. In 1775, at the launching of a lin battle ship at Chatham, the master builder, at the moment w the launch was going to take place, received a card from Mr B shaw, then one of the Lords of the Admiralty, stating, that he on the road with a party of ladies to see the launch, and reques that it might be delayed for a couple of hours to give time for t arrival. Upon receiving such a card, the builder, who was a of sense, held up his hands in amazement, and exclaimed, 'I Mr Bradshaw think that I can influence the tide, or postpone launch one minute beyond the period of high water!!' and ordered the block to be struck without the slightest hesitation.

The fine or clothing wools have of late risen greatly in p owing to the melancholy situation of affairs in Spain, whereby tal stoppage of importation of wool from that country is threate The most eminent economists have always entertained an opir that too little encouragement was given to the production of wool in this country, otherwise the article would not have been stantly a scarce one; nor would manufacturers have been obl to go to foreign countries for a supply of what was wanted in finest manufactures. Hitherto, carcass has been every thing; w the fleece has by many people scarcely been thought worthy o tention. The home-bred Merino sheep are understood to pro wool not much inferior to what is imported from the parent coun therefore, were the Legislature to pass an act prohibiting the im ation of foreign wools (long ago acts were passed, not very wi against exporting our own wools, which acts still remain in fo there cannot be a doubt but that a plentiful supply of fine wool w be instantly raised at home. The price would certainly exceed has been hitherto given for home-produced wools; because, unles value of the wool was advanced, farmers would still continue attention to the carcass, and consider it as the principal object: was the price of wool increased in the same ratio with other art the attention of the farmer would undoubtedly be turned to pro the finest qualities. This hitherto has not been his object;

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owing to the state of the market, it is well known by every breeder and feeder, that coarse-woolled sheep paid as well, if not better, for the expense of breeding and feeding, than those who carried a fleece of the finest clothing wool.

The landed interest of Scotland seem, of late, to be awakened to a sense of the pernicious consequences of the Property-tax act, and, of course, are endeavouring to procure that redress which the occupiers of land are well entitled to. We observe this disposition with much satisfaction; because this work has been the alone periodical publication in Britain, which ventured to investigate the Property tax, or to point out its consequences to the landed interest. At the first, our feeble endeavours were, like the small cloud in the horizon, scarcely discernible to an ordinary observer, and even treated with contempt by the majority of those who were most nearly interested. We must confess ourselves to be proud, upon observing that the small cloud has spread over almost one half of North Britain, and that our sentiments have in a great measure been approven, and recommended by a general meeting of the landed interest lately held in the Scottish metropolis. It is a matter of very little importance to the tenantry, how or in what manner they are assessed, provided the power of disproval is committed to them. From the first we approved of the principle of what is called the Property-tax Act, though we have constantly lifted up our testimony against the criterion adopted for ascertaining the income of the cultivators of land. An exemption in their favour was never wished or desired, though it was always contended that they had a right to be placed upon the same footing with other members of the community. This will be done when the right of disproving an assessment is bestowed, which in no shape is recognized by the last act, or by any of the acts formerly passed for assessing the Property-tax. If the farmer cannot disprove the rate of his assessment; if he cannot show, to the satisfaction of the commissioner, that his gains and profits for the year are below the sum for which he is rated by the assessor, then there can be no objection against an assumed criterion being used for ascertaining his gains and profits. According to the acts now in force, he may lose every head and tail of his live stock by disease—may have his house and furniture burnt—his whole crop blasted and destroyed by the elements—and yet, still, he is considered as enjoying an income not less than one half of the rent covenanted to be paid to his landlord. It is against these monstrosities that we have constantly argued; because the commissioners are not entrusted with power to make an abatement, even though every one of the above disasters had occurred, and could be fully instructed. In England the act has been administered in a very different manner; and, were it necessary, the difference might be shown to the satisfaction of every one. But there is no necessity to bring forward the English system as a reason for alleviating the Scottish one. The ground upon which the farmers of Scotland stand is strong enough of itself; and their object is merely to

be placed upon the same footing as the rest of the community, namely, to pay the Property-tax according to the amount of their gains and profits. This object is so reasonable as not to be resisted, provided it is clearly and distinctly stated. That success will ultimately be gained, is almost indisputable; though, very probably, the first application may be unsuccessful. This is no reason, however, for the landed interest abating their endeavours to procure redress; on the contrary, disappointment, in the first instance, ought to stimulate them to return to the charge with double force; and, if they are only true to their own cause, it is impossible to suppose that application for relief can ultimately be rejected.

The Essays for the premium offered by a respectable gentleman in the second Number of last volume, were transmitted to that gentleman, as announced in the December Magazine; and we are now authorized to say, that the premium will be divided betwixt the authors of the two Essays, whose distinguishing mottos are—

No. 1. '*At prius ignotum ferro quam scindimus æquor*
Ventos, et varium cœli prædiscere morem
Cura sit, ac patrias cultusque habitusque locorum
Et quid quæque ferat regio, et quid quæque recusct.' VIRG.

No. 2. '*Nil tam difficile est quod non solertia vincet.*'

and that, upon application to the Publishers, the premium offered will be paid accordingly. The names of the successful competitors are entrusted with the Publishers, though it was unnecessary to mention them in a public manner.

The gentleman who offered the above premium, reserves liberty to publish the above Essays with amendments, when he is disposed to take the trouble of revising them. In that case, they shall be presented, not as competition essays, but merely as letters upon the subject proposed to be investigated. If the authors are not pleased with this condition, the MS. copies shall be returned to them respectively.

SCOTLAND.

Letter from Inverness-shire, February 15.

'FROST commenced with us about the 16th December, since which time not a single plough has been yoked, nor an article of farm-work performed, except thrashing corn, and carting manure. The frost was more severe than at any time within the recollection of the oldest person living; and, as an instance of its severity, the Moray Frith at Kessock Ferry was quite frozen over, notwithstanding that the rise and fall of the tide there is considerable. It is said, that a dog passed over the ice, which, if true, was an uncommon circumstance in this part of the country, especially as the Frith at Kessock may be reckoned an arm of the sea. We had not much snow, so the fields were not shut up from cattle, who always made some shift there through the day, to the great saving of fodder. Turnips were a good crop this year, and of much consequence both to the breeder and feeder, serving to keep the young stock of the one in good order, and

and to fatten the more aged cattle of the other. Fat cattle are, however, 30 *per cent.* lower than last year at this time, selling from 5d. to 5½d. per lib. Mutton much the same. The demand for both articles is not great. Wheat sells about 42s. per boll; Barley from 32s. to 35s.; Oatmeal 32s. per boll of nine stones; Potatoes 12s. per boll of 8 barley firlots; Raw hides 2½d. and 3d. per lib. Dutch weight; Tallow 8d. The tanners are driving a fine trade; for, as hides fall, shoes rise, the shoemaker asserting that leather is higher in price than formerly, when the raw article was considerably dearer.'

Letter from a Gentleman near Langholm, Feb. 20.

'Since the publication of your last Number, the weather has run much into extremes, from heavy rains to keen frost and snow. The winter has consequently been severe to the stock farmers, who suffered much, particularly in high lying situations, in the course of the last, and beginning of the present month; during a considerable part of which period, several of them were obliged to fly to the low country, or support their flocks by feeding with hay. Sheep stocks, in general, have suffered much from the inclemency of the weather. They are mostly in low condition; and it is feared that the rot will be partially felt in many places, from the effects of hunger, unwholesome food, and the stormy weather they have been exposed to during the greatest part of winter. Should the succeeding spring months prove unfavourable, a considerable loss of stock may be looked for.

'The prices of grain and meal in our markets have been gradually getting up for some time past. Butcher meat has kept pretty steady during the season; but pork has been higher than for some years. The turnip crop, which in general was light in this district, has suffered much from the severity of the season, and is now mostly consumed or destroyed, by the severity and sudden extremes of the weather. Fodder, however, has been plentiful, from the abundant supply of hay and straw produced from the crop of last season.

'The operations of ploughing, and other field labour, have been retarded much beyond their usual progress at this stage of the season; and such fields as had been ploughed before the frosts set in, have, in our light soil, been completely drenched and washed down by the weighty rains which succeeded the frosty weather. A few small patches of wheat were sown last autumn in this district; but their appearance is by no means promising. A high flood, which followed the thaw on the 29th ult., did considerable damage to the valleys and low lying grounds, breaking down *weirs* and mill-dams, and injuring bridges in many places.'

Letter from Glasgow, 21st February.

'The operations of the field, particularly ploughing, have been much retarded by the severe storms of frost and snow which we have experienced since our last.

'The navigation of the river having been stopt for a considerable time by the ice; and the wind blowing long from the east, prevent-

ed the usual arrivals of grain at our port. Though not less than 30,000 bolls, chiefly oats, from Ireland and the South of Scotland, have arrived in the Clyde since the 1st of December, we do not believe that more than a half of that quantity has yet come to Glasgow. On this account, together with the idea that the Irish distillery bill, which is now before Parliament, will pass into a law, oats have advanced considerably in price. But as the wind has now changed to the west, we expect large quantities forward; and, should no check be put to our importations from Ireland, we see no cause to think that we shall not be abundantly supplied with this grain.

'Our ideas with regard to wheat are not so sanguine. The stock has now become very small; and, unless we receive considerable supplies from abroad, the east of Scotland, or from England, we will soon feel the want of that grain.

'Little barley has yet come to market; nor is there much demand for it. Our supply of beans and peas has been equal to the consumption. Annexed is a state of our prices current.

'State of Glasgow Markets, 21. February.

Foreign Red Wheat,	48s. to 50s.	p. boll of Linlithgowshire measure.
Scotch (new) do.	46s. — 50s.	
American do.	52s. — 54s.	ditto of 240 lib.
Irish Mealing Oats	32s. — 33s.	ditto of 264 lib.
Do. inferior do.	29s. — 30s.	
Scotch Potato do.	31s. — 32s.	ditto Renfrewshire measure.
Ditto Small do.	26s. — 27s.	
English Barley,	39s. — 42s.	ditto Stirlingshire ditto.
Scotch do.	31s. — 33s.	
Irish do.	33s. — 34s.	ditto Renfrewshire ditto.
English Beans,	38s. — 40s.	ditto Stirlingshire ditto.
Scotch do.	35s. — 38s.	
English Grey Peas	37s. — 38s.	ditto ditto ditto.
Scotch do.	35s. — 36s.	
Do. Oatmeal	27s. — 31s.	ditto of 140 lib.
Irish do.	26s. — 27s.	
Fine Flour	82s. — 84s.	p. sack of 280 lib.

West Stirlingshire Quarterly Report.

The quantity of snow which fell this winter was uncommonly great. In the beginning of January and February it lay so deep on the surface of the ground as to render the pasturage inaccessible to cattle, and was blown so much into the hollow spaces of the roads, as to render them impassable, without clearing them out on both occasions—an expedient which is rarely necessary in the Western districts of Scotland. The intervening period was filled up with such rapid alternations of frost and rain, as to suspend entirely the operations of the field.

Although the season has been severe, live stock have suffered little even in the higher districts. During the months of November and December,

December, the weather was commonly fair; and sheep, by enjoying a dry bed, kept free of disease. During the heavy falls of snow, there was a necessity of feeding with hay; and, as the snow fell gradually at first, shepherds had timeous warning to provide against danger. Though much fodder has been already consumed, yet, as the hay was an abundant crop, and the corns harvested in excellent order, there will be no deficiency on this score, unless the spring be very backward, which, after the recent severe winter, there is no reason to apprehend. In the late markets, there has been a great show of draught horses. A general complaint is made of the scarcity of money. The purchasers, though numerous, are rather shy: in consequence of which, the purchases are few, and the prices declining.

Grain, till of late, has been stationary. Less than usual has been brought to market; but the deficiency was fully supplied by the abundance and excellence of the potatoes, and by the large importations of oats from Ireland. The potatoes being nearly exhausted, has produced a greater demand for grain. Prices have begun to rise; and though from 28s. to 30s. is offered for the boll of meal, very little is sold.

The recent discussions in Parliament, respecting distillation from grain in Ireland, has awakened the spirit of monopoly in some of our neighbouring towns. It has been stated officially, that the last crop has been abundant in Ireland; that the price of grain must therefore fall considerably; and that distillation from grain should be permitted to consume the surplus produce, and afford a fair price to the farmer. To this argument no regard is paid by the mercantile interest, although a vast quantity of sugar has been lately withdrawn from the market, and the price has risen 20s. per cwt. in the course of six months. It seems to be taken for granted, that sugar, whenever it comes in competition with grain, should obtain an undisputed preference. The city of Glasgow has taken the lead in petitioning Parliament against the Irish distillation bill. They have been barely seconded by the small town of Dunbarton; and they are amazed that no other has yet followed their example. The Chancellor of the Exchequer had admitted, that illicit distillation was carried on to great extent in Ireland. Our city oracles consider this only as a pretence for permitting distillation, but they can see no force in it;—they think smuggling might easily be prevented, and blame the remissness and feebleness of Government in not doing so. But if these gentlemen would look to the state of the markets, they would find that barley maintains a high price in this country; and if they would take an excursion of a few miles from the smoke of Glasgow, they would find that malt whisky is still plentiful in every village;—that illicit distilleries are very numerous, in spite of the severe penalties against defaulters;—and that it is impossible to suppress the evil, so long as, by the present high price of malt spirits, there is a profit of nearly 300 *per cent.* in favour of illicit distillation.—*Feb.* 21.

Forfarshire Quarterly Report.

THE weather, during the preceding quarter, has been very tempestuous and unfavourable for the purposes of husbandry. For two months past, heavy storms of snow and rain have followed each other in succession, which have saturated the ground, and washed the ploughed land in an excessive degree. In consequence of these, also, the damage done to low lying fields on the banks of rivers and streams by overflowing, has been greater than remembered for many years, and the pernicious effects will be felt for a time to come. The labour performed during the above period has been but trifling, and confined to thrashing the crop and carting out manure. Now that the weather promises better, field labour is going briskly on, on dry land, and in a more forward state than last year at this time.

Turnips are much rotted; and fattening stock have improved little for six or eight weeks. It has almost been impossible to cart turnips off the ground, of late, without poaching it severely. A considerable number of fat cattle are still on hand; and any sales that have been made are about 9s. per stone for good fat.

Fodder does not appear to be scarce, and the crop is turning out rather better than once expected. Good wheat brings from 46s. to 48s.; barley 26s. to 29s.; potato oats 28s. to 30s.; the prices of inferior sorts are various. It may be said that two-thirds of the disposeable part of the crop is sold by the farmer; but a considerable quantity of wheat is still in the hands of grain merchants.

The winter wheats on clay or dry soils look tolerably well; but where the land is loose, on a retentive bottom, their appearance is thin and emaciated; and a considerable extent of the last mentioned description was, in consequence of the favourable autumn, permitted to be sown.

Land rent can scarcely be noted, as few sets have been made this quarter. Labour is rather on the fall.

The late exertions of the farmers of several counties, to get the assessment of the Income Tax on them equally adjusted, have not had the effect of stimulating the farmers of this county to a like effort; but a sort of apathy seems to have prevailed in the business for some time. Our great proprietors are never among the first to urge measures that embrace the interest of their tenantry; though it is strange that, in this case, they should be so blind to self-interest, when their influence might be so beneficially employed in promoting their own and the public good.—*21st Feb.*

Berwickshire Quarterly Report.

THE weather during this quarter has been stormy and severe, the wind, for almost two-thirds of the period, having blown from the north and east, with heavy falls of snow, by which the roads were repeatedly drifted up. Thaws were frequent; but as they generally commenced with rain or sleet, the fields have been continually drenched in wetness.

From the above causes, ploughing, and field labour of every description,

scription, is necessarily much behind. Since the 15th current, we have however been favoured with a continuance of fresh westerly gales, which have completely cleared the roads, and brought *dry-bottomed* turnip fields into a fine ploughing state.

Winter wheats and young clovers were much protected by the snow, and are at present looking healthy, though the frost at times was extremely intense, the thermometer having one night (January 18th) stood so low as 10 degrees, or 22 degrees below the freezing point.

Turnips are so much spoilt by the frost, that the few unoccupied fields have been recently taken at a considerable advance. But as this *reserve* is not equal to the deficiency, premature sales are very likely to ensue; while, from the adverse state of the weather, the generality of turnip sheep are in such a backward state, that many of them will not show to advantage at an early market.

Fat markets have all along been pretty steady; beef having brought from 6s. to 7s. per stone sink, and mutton from 7s. to 8s. per ditto, English weight. Sheep in high condition have, however, sold recently as high as 8s. 9d. per stone sink.

Straw fodder has stood little eatage, and will be a scarce article, in many cases, during the spring months. With the exception of barley, which has been rather falling in price, corn markets experienced little variation from the commencement of the quarter till Saturday last, when oats advanced about 2s. per boll. At Berwick market, February 18th, current prices were, wheat, 40s. to 63s.; barley, 27s. to 28s.; and oats, 22s. to 23s. per boll, of 6 Winchester bushels.—*February 21st.*

P. S. The farmers of this county (in conjunction with those of Roxburgh and Selkirkshire) are preparing a petition to Parliament against the present mode of assessing the Property-Tax upon occupiers of land; and a subscription is now going forward to defray the necessary expense.

Morayshire Quarterly Report.

The intelligence which can be furnished for this quarter, is not of an interesting nature. The winter has been more severe than almost any ever remembered, and field labour is much behind; but there is no want of provender; and cattle are in good condition. The quantity and quality of wheat (as was expected) equal an ordinary crop; and, before it was known that the American embargo was to be continued, considerable sales were made at 40s. per boll, and again partly resold. Some parcels have since been bought at 45s., which, according to present appearances, will not pay the merchant, as markets (now that the first alarm is over) are dull both south and north, and will remain so until the London speculators see some new cause to strike in. Oats are a bad crop, and yielding poorly in meal. This exporting county will scarcely supply itself with that article. The principal barley sales are to millers and smugglers of whisky, both uncertain and limited in the extreme.

To

To these people some sales have been made at 30s. to 35s. per boll. Had oats been usually productive, the growers of barley would have had a ruinous year. Should Government again see it right to permit distillation from grain, some material alteration in our Northern act of Parliament is absolutely necessary; for, as it stands, the revenue, the agriculture, and morals of the people, suffer in the extreme; and it is in vain to expect that smuggling will be effectually checked in the North by laws, however rigid, unless licensed stills are tolerated, under conditions to make them an object of traffic, which at present is by no means the case. Much improper opposition has been given to this measure; but as the landed proprietors of the North are, on most occasions, ready to attend to their own and the interest of the country at large, it is to be hoped they will join in a body to get some effectual measures adopted, and not apply separately, as hitherto.

The farmers of this district have large stocks of well fed young cattle for sale, in fine condition for the flesher or grazier; and purchasers will be conducted through the different farms in the county, where the cattle are to be seen, on application to Mr Thomas Craig, at Barmuckity near Elgin.——*21st February.*

Banffshire Quarterly Report.

The unusual mildness of the weather, from the date of last Report till about the 25th December, admitted all the operations of husbandry necessary for the season to be carried on with great facility; consequently ploughing was in a very forward state when frost and snow were received. Another great advantage was derived from a great saving of provender having been made, by the live stock finding subsistence out of doors so long after the usual time of housing. Since the above period, the winter has been particularly severe, and the frost, at different times, more intense than scarcely ever remembered. About the 21th ultimo it was so severe, that the thermometer stood many degrees below the freezing point. Fortunately, at this time, there was a sufficient quantity of snow to shield the wheat and young grasses, which, no doubt, would have otherwise been materially injured. Although several thaws have been experienced since that time, field work of every description has been mostly at a stand. Even carting out of dung was scarcely practicable in many situations. Stall feeding, which is but partially carried on in this district, has been found a difficult task, and attended with little advantage, during all last month; but as cattle were previously in forward condition, this branch has not received so severe a check as might have been expected. Turnips were in general a fair crop; but, in many fields, a large proportion are already spoiled. The yellow, however, have stood the test, and always prove a great acquisition at this season. Hay is a scarce article, and straw consuming rapidly; so that many farmers will be difficulted to keep on their cattle till the usual period. From these causes a considerable slaughter has been going on, and butcher

meat

meat not exceeding 5s. 6d. and 6s. per stone sink. Those who can reach the spring markets expect to be better paid, as it may be presumed the usual supplies will not be obtained from the distilleries under present circumstances. The crop turns out much worse under the flail, than was expected at the period of ingathering. Many of the best fields, both of oats and barley, scarcely give five bolls per acre. It may be fairly stated, that the farmer is not remunerated for this deficiency by present prices, although a great proportion of the community have much ado to keep from starving, money being so little in circulation.—Present prices of grain.- Oats 22s. to 26s.; bear 25s. to 28s. per boll, of 128 Scots pints. Wheat mostly all sold some time ago at 40s.; and what remains is worth about 43s. Best oatmeal 28s. per boll, of eight stone Dutch.——28. *Feb.*

Letter from Falkirk, 21st February.

'THE long continued severe frost, and heavy falls of snow, laid the plough entirely aside for two months past, and confined outdoor operations to carting of dung and dressing hedges. Luckily, however, winter ploughing was previously well advanced Had the frost gone off without rain, the ground would have been in an excellent state for every spring operation, as it had penetrated, even on firm old lea, to the depth of a plough-furrow, and had consequently rendered the strongest clay tender. But for ten or twelve days, we have had almost constant rain, with tremendous gales of wind; and now hard frost has again returned. If an almost immediate change to settled, open weather, does not take place, spring work must necessarily be thrown far back, and is indeed already so much behind, that every day is now of great moment. Notwithstanding the uncommon severity of the winter, the young wheats do not appear to have suffered. Even those early sown, are no doubt more backward than usually happens at this season; but this may not ultimately prove prejudicial. The idea given in last report, of the sate of the crops in this district, turns out pretty correct, except that wheat is worse than was then stated. Quantity and quality taken together, it is probably not less than a third below a fair ordinary average; indeed, a decent sample of this grain is scarcely to be met with; the present price about 45s. per Linlithgow standard boll. Under existing circumstances, when completely shut out from every foreign supply, and with a crop confessedly defective to a great extent, it at least holds out an encouraging prospect to the country in times coming, that the price has not risen much higher, as might certainly have been looked for, and was undoubtedly the general opinion. It will probably also stagger the confident expectations of those who firmly relied on a great progressive advance in the price of grain, as the sure source from which the astonishing rents lately given were to arise. After such a season, the dread of scarcity, and the improbability of our being able to supply our own demand, will surely at the same time be lessened. Barley, the best crop of last year, has rather unexpectedly maintained its price, considering

considering the effect naturally looked to from stopping the distilleries. This can only be accounted for, by its supplying in some degree the deficiency of the other crops. The present price is about 32s. per Stirlingshire boll. Oatmeal 1s. 10d. per peck; but it is said a very considerable advance on oats has just taken place in the West Country, in consequence of the intended permission to distil from grain in Ireland, whence considerable supplies of that article were obtained. In this district we have plenty of fodder to carry us through the season. Excellent hay can be got from 13d. to 14d. per stone.'

Letter from the District of Carrick, February 21.

'THOUGH the three winter months are generally unsettled and unpleasant, yet it very seldom happens that we have such a continuation of stormy severe weather as has happened since the middle of November. Most old people observe, that this has been the severest winter in their remembrance. There has scarce been two days together without a fall of something, except during the frost, when the ground was covered with snow; and the storms of wind have been almost incessant. It may well be supposed that this state of the weather must have been highly prejudicial both to the grazier and agriculturist. Outlying stock, continually drenched with rain, and having seldom a dry bed to lye down upon, with their bellies full of wet, withered, and sapless grass, could not possibly thrive. Little farm work could be carried on without doors, as the ground was not in a state either for ploughing or carting dung. The principal business consisted in thrashing out the grain, and keeping up a constant regular supply in the market; and as the growth of both straw and hay of last crop was plentiful, there seems to be little dread of a scarcity of fodder. Farm work, in general, is greatly behind; but the season being so far advanced, people are obliged to go on, even though the ground is not yet in a proper state for ploughing. It is generally known that last year's crop was a good one in this district; and it was got secured in the best manner, during three weeks of continued good harvest weather; and I believe our wheat crops suffered less than in almost any other part of Britain; and, so far as is yet known, turn out pretty well, both in the barn and the mill.

'This state of things, to people who cannot, or do not choose to take an extensive view, is extremely apt to mislead. They have seen the markets regularly and plentifully supplied. They see plenty at present all round them; and they will not allow themselves to believe that there is the smallest risk of scarcity. They are beginning, of late, to be undeceived, when they see a buying up everywhere to supply distant markets. And, as constantly happens in every similar case, the price is rising with the demand. Those who are capable of reflecting upon the present political state of Britain, shut out from every country whence grain could come, and who know the deficiency of last year's crop in many districts of the country, are convinced that

that we ought to husband our stores with the utmost frugality. If it be a fact, that Britain does not supply itself with grain, even in the best years, (and this year will seemingly put it to the test), what are we to expect in a year when the general crop is below an average? Certainly the very best thing that could happen to the country is, that the price of grain should immediately rise very considerably. However the necessity of this may be deplored, yet the expediency of it is self-evident. From what I have said, you will readily infer, that I mean to say that grain is everywhere looking up. As to what we call our sale cattle, that is, cattle either for laying on grass, or for the English market, the season of demand for them is not yet arrived. The shambles have, through the winter, been tolerably well supplied from the stalls; and the price of meat has kept pretty steady at from 5d. to 10d. the lib. of 24 oz. It is unnecessary to quote the price of grain, as it is varying from day to day.'

Fifeshire Quarterly Report.

The ground, during the last two months, has been almost constantly covered with deep snow; and owing to that circumstance, and the storms of wind and rain which succeeded, it was impossible to plough any ground, except old pastures, till very lately. We have only had three days yet of good mild fresh weather; but the ground is now drying, and getting fast into good order; and, should favourable weather continue, ploughing may yet get forward.

The stack-yards are getting thin apace, though no want of straw. The price of grain continues steady, and with less fluctuation than usual. Wheat 40s. to 45s.; barley 24s. to 26s.; oats 22s. to 26s.; oatmeal 26s. to 28s. The potato crop was excellent and abundant, so that no scarcity is apprehended. The barley has a steady sale, and the want of the distillery has not been felt by the farmer one half so much as was dreaded.

Live stock appear thriving, and in good order, especially where a few turnip has been given. The young wheats and clovers, in general, look well. Pasture parks, yet let, have risen 10 or 15 *per cent.* above last year's rent. Farms for tillage, lately let, have risen 30 *per cent.*

Flax, an article much cultivated in this district, will this year probably, from a scarcity of seed, be almost totally wanting. There was very little sown last year; and, from a wet and unfavourable season at pulling time, little or no seed could be saved.——23. *February.*

Inverness-shire Quarterly Report.

Though the frost remained nearly for eight weeks, the winter quarter cannot, on the whole, be estimated as a bad one, particularly for the stock farmers. Notwithstanding that frost was most severe, yet, as snow did not fall in any great quantity, seldom being above three or four inches in deepness, much inconvenience was not felt, unless what arose from an almost total cessation of field labour. About the end of January, the Frith, from Inverness to Beaulie, a distance of eight or ten miles, was completely frozen over, a circumstance

cumstance which has not occurred since 1740. Turnips have sufferred from the frost, though not so much as expected. Inverness market has been abundantly supplied through winter with excellent mutton, at prices from 5d. to 6d. per lb. Beef is much about the same rates; and, of course, the returns from feeding this season will be trifling and inconsiderable. Provender of all kinds remains in abundance. ——23. *February.*

Dumfries-shire Quarterly Report.

In this part of the country there has not been, for many years, a winter more tempestuous than the last one. The frosts were keen in the extreme, and the snows were blown with violence; but the thaws were moderate, and came in time to prevent the loss of sheep, which must immediately have ensued, if they had not intervened. At the same time, there is no doubt but these extremes have brought sheep into low condition, though it is to be hoped their constitutions are not so far injured, but that a good spring may recover them.

The agricultural labour was got so forward in the autumn, that it may not now be considered behind, notwithstanding the interruptions of the winter. There is yet, however, very little spring wheat sown; but the ground is now beginning to get in order, and must soon be in good condition if the weather continues so dry and mild as it is at present. The loss of turnips, by the extreme frost, is considerable and general, and will make more room than usual for sowing wheat, of which farmers will probably avail themselves, in the view of making up for their loss of turnips. This, however, is a matter on which our best farmers are still doubtful. Whether a good crop of barley, or a crop of spring wheat is ultimately most advantageous, is a matter that deserves consideration, due attention being paid to the consequences of each.

The corn crop of last year has turned out considerably better than was expected. Wheat, barley, and oats have all thrashed out more grain, and of better quality, particularly the oats in the upper parts of the county; yet the demand from the sea-port towns has kept the price at what may be called fair rates. Wheat from 10s. 6d. to 11s.; barley from 4s. 8d. to 5s.; oats from 3s. 6d. to 4s. per Winchester bushel.

The alternate rains and extreme frosts having destroyed most of the remaining turnips, the fed sheep and cattle are now getting fast away to the market, which will probably keep the prices low for a short time. Those who have quantities of Swedish turnips, which root is not injured by frost, have, in such a season, more than an ordinary advantage. It is not doubted but the observation of this will induce many others to increase the growth of that valuable root.

The demand for cattle to go to the South has come on this spring as early as usual. Considerable numbers have been bought up, and at prices which pay the farmer in a reasonable way.

A ploughing match, or competition for premiums given by farmers, and medals given by the Highland Society, took place lately,

lately, in the neighbourhood of Lochmaben. It was well attended; and the emulation it occasioned among the young men appears to have its proper effect. Though there are here farmers skilled in the principles and practice of agriculture, such a degree of knowledge is far from being general among farmers of the inferior class; of course, many ploughmen must be deficient in the interesting business of turning over the furrow in the most advantageous and expeditious manner.——23. *February.*

Ross-shire Quarterly Report.

The severity of winter has been principally felt in this part of the country, by the unprecedented intenseness of the frost during the greatest part of January. This was prejudicial to a great extent, from its not being attended with snow to afford a covering to turnips and wheat. The consequences are, a very considerable loss of turnips by rotting. The white globes have evidently suffered most; reds, in a partial degree, and even in some cases yellows, are said to have sustained damage. As the season advances, the injurious effects will be more evident, and strongly points out the necessity of attending to sow a pretty large proportion of yellows, and it may be adviseable, again to recur to Swedish, to a certain extent. No market for turnip stock being to depend on here, of course they must have a supply of that root till grass comes.

Wheat was extremely browned by the frost winds, but is now reviving, and scarcely a field but exhibits a sufficient number of plants. Young grass is much in the same state.

Ploughing was so far advanced previous to the commencement of winter weather, that it is just now as forward as in ordinary seasons. The weather, at present, is mild and soft; but, judging from the alternate state it has been in for the last two or three weeks, when we rarely had twenty-four hours alike, it can by no means be declared settled. Turnip stock have done as might be expected. Where there were not stores laid in before the severe frost came on, or a good deal of hay given during that time, very little improvement has been effected. Highland stocks are reported to be in good order; and the effects of winter by no means felt uncommonly severe there.

Corn markets have on the whole been steady. Wheat from 40s. to 44s. per Linlithgow boll. Not above half the ordinary export will take place of that article. Barley and bear find a ready market in the county, wholesale buyers giving from 28s. to 30s. per boll; but, in retail to smugglers, it sells at 35s. to 40s., according to local situation, and length of credit. Potato-oats 30s. to 31s. per 5 firlots; common ditto 25s. to 27s. per ditto. The crop turns out ill in every stage, first in quantity, and afterwards yielding little meal. Unless supplies arrive from another quarter, it is evident there will be a scarcity of meal during summer. Present price 30s. to 32s. per 9 Dutch stones.——23. *February.*

Aberdeenshire Quarterly Report.

In the course of harvesting last crop, it was clearly perceived, that

that great part of the grain would prove defective, or of inferior quality; and this view of matters has been fully realized by the short return in many places. In others, few complaints are made as to the quality; but, owing to the quantity of light corn or dressings, the quantity is below the expectation of the farmers. The one or the other of these are prevalent, both as to bear and oats, over the county; so that the quantity of disposeable grain will be considerably less than usual.

From the conclusion of harvest to the 10th of December, the weather continued fresh and pleasant. Cattle were kept much on the pastures, and labouring was got far forward; but two months of stormy weather succeeding, has sunk the stack-yards very much, chiefly owing to fodder being still more defective than grain in its usual quality; and if spring does not set in favourably, the difficulties arising from this will not be much less than last year. Hay is from 1s. to 1s. 4d. per stone; and oats with fodder have been sold in many places at and above 50s. per boll. No apprehensions are entertained for the quality of the grain of last crop for seed, as the failure did not proceed from frosts. Fat cattle have generally sold from 48s. to 55s. per cwt., sinking offal: a very considerable stock remains still on hand. Milch cows have also been in request. Turnips have generally sustained little damage from rotting: a considerable proportion of them remain on the fields for consumption. Oats have sold from 22s. to 26s.; Meal from 24s. to 27s.,—the former likely to get still higher; whilst bear has few purchasers, and can scarcely attain the price of either of the above articles. In the price of labour there is scarcely any difference; yet hands are plentier, and more easily obtained, which very much facilitates the purposes of agriculture, the spirit of which is rather increased than diminished. Public works are not in such abundance as formerly. The turnpike roads, where the lines are not finished, are going on rather slowly; and new erections or buildings are much impeded, if not stopped for a time, from the great difficulty, if not impossibility, of procuring wood of sufficient quality.——*Feb.* 23.

Kincardineshire Quarterly Report.

The month of November, and two first weeks of December, were very fine weather. The wheat-sowing in the south part of the county (the only district where it is sown) was got finished in good order. The weather changed about 17th December; till the middle of February, constant storms of snow and wind prevailed, whereby all the operations of husbandry were suspended, except thrashing of grain, and carting of manure to the fields. The last two months have afforded an opportunity of thrashing and carrying to market more grain than would have been done, had the weather been more favourable. Still the grain markets look up; and there is every prospect of their doing so, as the principal part of the grain that the farmers can spare is now in the hands of the dealers and millers. Wheat from 42s. to 47s.; Barley 28s.; Chester Bear 24s.; Potato-

oats 26s. per boll Linlithgow measure. Till of late, there being no less than three different measures for grain in this county, varying more than a peck in the boll, the Justices came to a resolution of appointing a committee to inquire into the different weights and measures used in it. They made a report, which was approved of at the last general meeting, 30th April, and proper people appointed for seeing it carried into effect. It is hoped other counties in Scotland will follow the example, and that uniformity in the measures of capacity will in time be generally introduced.

Turnips have in general kept out well, the snow having preserved them from the frost. The prices of fat cattle are tolerably good; but, for lean stock, there is no demand. Fodder will be a scarce article in the north district of the county; and any little there is to dispose of, has got to a very high price.——*Feb.* 24.

Wigtonshire Quarterly Report.

This district has been visited by a winter of unusual severity, and the husbandman's labours are accordingly much behind. As yet, there have been only a few days of favourable weather; and if that should experience any serious interruption for some time to come, the operations of spring will be backward indeed.

Fat cattle are selling at a tolerably fair price; but the demand for lean stock has not yet commenced.

Corn has been on the advance of late, particularly oats, the present price of which may be stated at 50s. per Galloway boll, of 12 Winchester bushels, for quality weighing 40 lib. per bushel.

The quality of grain, however, is considerably inferior to that of the average of years.

The farmers of this county have it in contemplation to follow the example of their brethren in the county of Roxburgh respecting the Property-tax, the operation of which is becoming grievous in the extreme; but the farming interest are an unwieldy and discordant body, and can hardly be brought to act with unity and spirit. How different from an assemblage of merchants and manufacturers, who, on all occasions where they consider themselves aggrieved, act from a quick and universal impulse, asserting the rights of justice, and defending the interests of their profession! It is surely high time that farmers should begin to imitate the example.——*Feb.* 24.

Tweeddale Quarterly Report.

The feeding stock received full benefit from turnips, till the middle of December, when a severe black frost came on, which impeded future progress. This frost was followed by a considerable fall of snow, and continued less or more till the middle of February, when a favourable change ensued. A great part of the turnip crop, then unconsumed, was destroyed by adverse weather, which obliged many farmers to bring their feeding stock to market earlier than was wished. The flocks on the uplands suffered much during the storm, as hay could not be procured in many places. The Cheviot breed suffered most, especially the hogs or young sheep, which has always been the case with that breed since its introduction into this county.

Prices for fat stock are rather on the advance, though few people here will be greatly benefited thereby, stock being generally disposed of. There is small alteration in the rent of land; but the value of labour has declined considerably. Grain markets have not varied much since harvest, till lately, when the quantity presented has rather been inferior to the demand. With regard to the Property-tax act, the farmers of this county highly approve of the spirited steps taken by the Roxburghshire farmers to procure redress; though, whether from the influence of passive obedience, or from apprehension that relief is not to be obtained, little has been done to support the measures of their more active brethren.——*Feb.* 28.

East Lothian Quarterly Report.

The winter was long and severe; and, from an excess of frost, tillage was stopped, almost in every case, from the 25th December to the 13th February. Field labour, by consequence, was thrown greatly behind, and the most active exertions were called for when fresh weather returned. Some land still remains untouched by the plough, but the quantity is inconsiderable; and should further interruptions be avoided, the spring work of the district will soon be in a forward state.

It is remarked, that some of the winter wheats, chiefly those sown on clover stubbles, are fast quitting the ground; but whether that circumstance proceeds from the use of weak seed, from the late severe frosts, or the ravages of the grub and cut worm, is not yet ascertained. In general, the wheats look well; but it is too early in the season to hazard any decided opinion upon their condition. A large addition has been made to the winter wheats, by sowing a considerable quantity during the last week; and more will still be sown, provided the weather remains dry and temperate. Indeed, the rents of this county are not to be paid without placing great dependence upon wheat; and to the growth of that grain, both soil and climate of the district are in general admirably calculated.

The markets have been well supplied with grain through the past quarter, though much of it has been of an inferior quality. A rise of price has lately taken place; and as the season advances, there is cause to suppose, that the supplies will not only be diminished, but that the prices will also be increased. The wheat crop has turned out to be more unproductive than predicted in former reports; as was fully evidenced by the proof taken last week by the Sheriff of the county, for ascertaining the annual fiars. The quantity then deponed to amounted only to 9055 bolls; whereas at the proof, March 1806, for crop and year 1805, not fewer than 27,134 bolls were sworn to in evidence. Any difference of price which has occurred, will go short way to compensate the actual deficiency of quantity. Indeed, those farmers who had the smallest produce, have almost, in every case, obtained prices not much above those received in the year condescended upon.

A considerable part of the turnip crop rotted, in consequence of severe

severe frost; and were it not for yellow turnip and ruta baga, the generality of feeders would soon be in an awkward predicament. The culture of these varieties cannot be too earnestly recommended; as, without them, the feeder must dispose of his fat stock prematurely, and be at short allowance with his spring stock for several weeks before the grass season arrives.

The Property-Tax act has of late engaged general attention; and the evils felt from the improper criterion assumed in the act for ascertaining the farmer's income, has occasioned a considerable number of the most respectable of the profession to resolve upon seeking redress at the only court where it can be obtained. Every one of them are well satisfied to pay ten *per cent.* of income to the support of Government; but it is supposed unfair usage, to assume a criterion of income which is unfounded in fact, and which cannot operate alike in any two cases. If the evils of the act are suitably described, it is impossible to suppose that it will not be amended in every part which bears harder upon farmers than upon the rest of the community. To suppose the contrary, would be the same thing as supposing that the legislature would commit injustice.

Prices of grain at Haddington on Friday last, were, for wheat, 50s. to 57s.; barley 30s. to 32s.; oats 25s. to 37s.; peas and beans 28s. to 36s., all per boll Linlithgow standard measure. A boll of wheat, peas or beans, is something more than four Winchester bushels; and of barley and oats, about six bushels. The generality of firlots rather exceed the Linlithgow standard; some of them are two and even three *per cent.* larger.——*March 4th.*

ENGLAND.

Yorkshire Quarterly Report.

In this part of the island, the prospect of the poor is discouraging in the extreme. The deficiency in the crops, particularly wheats, begins to be deeply felt. Much barley is bought up for grinding for bread; and much oatmeal is brought from the hill districts, to make up in some degree for the deficiency;—these districts, from late improvements, by enclosing the moors, being now happily enabled to send off a surplus of grain, instead of depending for the whole of their consumption on supplies from the low lands, which was universally the case at no very remote period. Whether, in the event of actual and general scarcity and dearth, arrangements may be made, so as to obtain a supply, in the needful time, from America or any other country, seems at present very dubious. However, one consequence *ought* to take place,—the adoption of measures calculated to encourage agriculture, and the growth of grain in particular, to the utmost possible extent;—which, it still appears to be more and more the general persuasion, can never be permanently and substantially effected, without a radical change in the tithe system throughout the empire. Without this, millions of acres must be condemned to the production of any thing rather than grain, and millions more to a perpetual and hopeless sterility. The best wheat is now at 20s.;

Barley, 8s.; Oats, 6s.; Rye, 10s.; and Beans and Peas, 10s. per bushel of Winchester.

From the uncommon severity of the winter, and heavy falls of snow and rain during the latter part of it, the ground has been in the most unfavourable state possible for every early operation in the spring; so that the sowing beans and peas, as well as of spring wheat, &c. must be delayed to a period later than usual. The weather is now drier, and some ploughs are beginning to stir.

As far as present appearances warrant, the growing wheats are promising, not having suffered so much from the inclemency of the winter as might have been expected; owing, perhaps, to the snow, with which they were generally covered. The turnips, of the common white sorts, however, are almost totally cut off by the frost, to the great disappointment and loss of the flockmasters, who are now mostly compelled to sell off; notwithstanding which, and the expected glut in Wakefield fat cattle market in consequence of it, both beasts about 200, and sheep about 4000, were readily sold at good prices, on the 15th instant. Lean cattle and pigs continue at moderate prices. Fat beasts, in particular, are expected to be unusually dear towards summer, as there is the smallest number put up for stall-feeding almost ever known; the price of food for them, particularly cake, being so exorbitant. Potatoes turned out rather smaller than expected, and are selling at 3s. per bushel. Best beef and veal, 9d.; mutton, 8d. per lib. Hay is still dear.

Good horses are expected to advance in price, and are now selling well. The late massacre among them in Spain is not likely to reduce the value of the surviving stock. But it is 'an ill wind that blows nobody profit;' for the woolstaplers and dealers in fine cloths, particularly broads, are endeavouring, might and main, to take advantage of our misfortunes, by crying up a scarcity of fine wool, particularly Spanish, and thereby enhancing the price of the stock on hand, so as to enable them to sell it off at the *moderate* ratio of two, three, or even four times the fair and usual price. Some steps are taking in London to counteract this barefaced imposition; and certainly, whatever of the sort can be legally done, ought to be generally supported. Report says, that some fine broad cloth has already actually been sold at 5 guineas per yard! It is not understood that much alteration is taking place, in regard to coarse or long wools.

Flax seed is at the highest price ever known; some say, 20 guineas per quarter. But late importations of the article from the Baltic, or elsewhere, into Ireland, as reported, and stated to be the cause of some decline in the price of Irish linens, may not improbably reach the cause here.

In fine, from the forced and unnatural state in which mankind is, and has too long been placed, by the unreasonable duration of the war, nothing can be long depended upon as steady; and folly and knavery continue to be the order of the day.—*22d February.*

Northumberland

Northumberland Quarterly Report.

THROUGH the last quarter we have had alternately heavy falls of snow, and partial thaws, with much rain or sleet; than which, nothing could be more prejudicial to live stock, and particularly sheep. Those upon turnips have made little progress. The mountain sheep are reduced to the extremity of poverty; and it is to be feared that great numbers will perish, unless we have an uncommonly mild and favourable spring.

In consequence of the snow coming on so early, and continuing so long, there is yet much land to plough; and scarcely any spring wheat sown.

The turnips are considerably injured by the frost; and being a defective crop, a scarcity is expected. Of course, the markets will be crowded with fat stock for some weeks to come.

Ruta baga everywhere appears to have received no injury, and is in general an abundant crop. This valuable plant is becoming more extensively cultivated every year, as it is found not only to resist the attack of frosts better than common turnips, but may be pulled, and housed or stacked, before or during any part of the winter, and kept perfectly good until May.

In corn markets there has been little alteration in prices since last report; but, from the general complaint of the unproductiveness of the stacks, it is to be feared that the deficiency will be greater than was expected.—*22d February.*

Lincolnshire Quarterly Report.

THE weather is now very fine, and promises to afford a favourable season for depositing the spring seeds, notwithstanding of the severe storms with which we were lately visited, and the inundations which took place over the whole lower districts of this county. The embanked fens have escaped more than could have been expected, on account of the large drains being so very broad and deep: though, on the whole, more loss has been sustained from the inundations than known in this county at any former period.

Grain markets have been tolerably well supplied for some time past at the following prices. Wheat 90s. to 100s.; barley 46s. to 52s.; oats 30s. to 40s.; beans 60s. to 65s.; white peas 160s., all per quarter of eight Winchester bushels. The butcher market has also been well supplied with beef at 7s. per stone of 14 lib. sink; mutton 7d. per lib. sink; veal 8½d. per lib.; pork 7½d.——*21th February.*

Cumberland Quarterly Report.

SINCE last report, the weather has been very unequal: severe frosts have been succeeded by violent storms of rain; and every field operation has been much retarded. Fallows are in a very backward state; and a small proportion of the leas has yet been ploughed. Winter tares and wheat, since the cessation of the frost, wear a very hopeful appearance; but the wheat of last year turned out one fourth, quantity and quality considered, below the usual average. Barley will not average more than 24 Winchester bushels to the acre; and the grain, in many parts of the county, is very shrivelled. Oats, on recently

recently enclosed wastes, are very good; but they are in general considerably below par. The frost has destroyed two thirds of the common turnips. Swedish and yellow have escaped unhurt. The *Triticum æstivum*, spring wheat, has answered very well last year. In many instances, if preceded by turnips, and in *open* situations, when sown so late as the 15th of April, it has produced 33 and 35 Winchester bushels per acre. Buck, or French wheat, was an excellent crop, and the most powerful destroyer of weeds, at the least expense, of any other species either of culmiferous or leguminous crops. On upland situations, where the harvest is ticklish, it must be very useful. Horses, cows and swine are all fond of it in a green state. Early sown oats last year weigh better, and are less affected with the smut, than those which were sown late.——*February 27th.*

Letter from Wakefield, 28th February.

'We have real spring wheat on sale, grown last year, in the worst district for mildew, and not in the least affected by that malady. The produce was 50 bushels per acre, from the same land which had produced the like quantity of the same kind of wheat the preceding year.'

Letter from a Gentleman in London, 28th February.

'A new species of barley has been introduced to our acquaintance lately, which is very large in the pickle, without any skin, and is said to produce not less than ten quarters per acre. It must weigh, from appearance, 10 to 15 *per cent.* above the best sorts of English barley. I know nothing of its straw. It is said to be of Indian origin; and to have come to this country from Sweden. Mr Barclay, the great brewer, is the patron of it; who states, that it requires much less time in the ground than any other barley, being sown a month later, and reaped a month earlier. If I can succeed in time, I mean to do myself the pleasure of sending a bushel of it to you, and one to my worthy old friend Mr Dempster of Dunnichen.'

Norfolk Quarterly Report.

The unusual quantity of rain that fell during this quarter, has not only sodded the land, but has been very unfavourable to the grazier, particularly for sheep; their food being always dirty, and their coats full of water. The fen farmers have suffered severely from breaches of banks; many thousands of acres of land are from six to seven feet under water, and the loss of stock and corn is immense. This disaster has given a rise to the price of grain. It is said the water cannot be got off these valuable lands in less than twelve months. For these last ten days, we have been favoured with fine dry weather, during which time the stock (sheep and bullocks) have done well; and the land is become dry enough for ploughing. Planting peas commenced a week back on dry soils, and is now become pretty general. The turnip crop suffered severely from the alternate frosts and rain; they became very rotten; but fortunately the farmer was well stored with good hay, which proved this year (as well as many preceding years) of essential service. The growing

growing crops of wheat (from being over-wetted) looked very sickly about three weeks back: at this time they are much revived. There appears to be a full plant on the ground; and, as far as can be judged, they promise well. The last year's crop seems (from the general use of thrashing-machines) to have by much the greater part been brought to market. Grain of every description advances in price. Wheat sells from 90s. to 105s. per quarter; barley, fine, 46s.; inferior as low as 32s.; white peas for seed 8*l.*; grey do. 60s. per quarter; beans 60s.; oats from 32s. to 42s. per quarter. Butcher meat is also risen in price. Beef from 8s. 9d. to 9s. 2d. per stone of 14 lib.; mutton from 7½d. to 8d. per lib.; veal 7d. to 8d.; pork 8d. to 8½d.——*February 28th.*

Letter from London, 1st March.

'THE boisterous and unsettled state of the weather during the months of December and January, prevented the supplies of grain coming to this market so regularly as usual; but they have, upon the whole, not been far deficient in point of quantity, though, in quality and condition, they prove to have been correctly represented in last report. Hardly any foreign grain has arrived, and but little from Scotland or Ireland. The home counties of Essex, Kent, and Suffolk, have furnished the great proportion of wheat, (and with the aid of Norfolk), also of barley, beans, and peas. Lincoln and Yorkshire have, as usual, supplied the oats; and Northumberland lately contributed a part.

'Wheat has fluctuated in price more than any other description of corn; but, since the accounts of the probable continuance of the American embargo, the article has been gradually creeping up. The proportion of malting barley come to hand, has been very small, compared with the quantity of stained and damaged quality, which has considerably curtailed the operations of the maltster, and established an unusual difference of price in the shipments from the same port, extending, in many instances, to 10s., 12s., and even 15s. per quarter. The oats, too, vary exceedingly; the great bulk of them being light, and little better than chaff. We receive, in the same ship, oats that weigh from 38 to 40 lib. per bushel, and some not more than 25 to 28 and 30 per bushel.

'Beans, Peas, and Rye, are by far the most perfect grains of the last harvest, and are indeed all good of their kinds. The young wheats never got very forward in this circle; and, notwithstanding the trying season they have passed through, few complaints are heard, although, in many parts, the waters lodged long upon them. In the fens of Cambridge, Norfolk, and Lincoln, however, great and irreparable injury is said to be sustained from the floods, where, probably, nearly 100,000 acres of land are rendered incapable of cultivation this season.

'The proposed bill for the adoption of corn distillation in Ireland, has, at last, been thrown out by the House of Commons; and regulations are framing for the use of sugar in that country, as in England

England and Scotland. This measure seems to meet the approbation of almost all classes of people.

State of London Markets, 1st of March.

Wheat, English, White	95s. 96s. 99s.
——— Do. Red	90s. 92s. 96s.
——— North Country	88s. 92s. 95s.
——— Dantzic and Koningsberg	90s. 92s. 96s.
Barley, Norfolk and Suffolk	44s. 48s. 50s.
——— North Country, &c.	36s. 40s.
Malt, Norfolk and Suffolk	80s. 82s. 84s.
Rapeseed (new), per last of 10 quarters	58*l.* 60*l.*
Rye	68s. 70s.
Beans, Pigeon and Small	60s. 62s. 64s.
——— Ticks and Large	52s. 54s. 56s.
Peas, White Boilers	140s. 147s.
—— Hog or Grey	54s. 58s.
Oats, Potato	42s. 44s. 46s.
—— Poland	38s. 42s. 44s.
—— Feed	36s. 38s. 40s.
Flour, English, per sack	85s. 90s.
——— American, per barrel of 196 lib.	56s. 58s.
Tares (spring), per bushel	20s. 21s.

NOTICES TO CORRESPONDENTS.

THE remainder of the '*Remarks on Mr Laurie's Letter on the Depopulation of the Highlands,*' is reserved for next Number.

Our good friend P—n's Reply to the Strictures of 'A Constant Reader,' on his Account of Perthshire Husbandry, shall not be neglected. We apprehend that 'A Constant Reader' has at last met with his match.

The 'Storemaster's Wellwisher's' Observations on the Account of the Improvements introduced on the Estates of the Duke of Buccleugh, are under consideration.

Some further information concerning the Reaping Machine, has lately been communicated, which, if possible, will be presented in next Number; also some ingenious Observations on a new Mode of yoking Horses in Thrashing Machines.

Grateful thanks are returned to our Correspondents, for the liberal assistance given to this Work; and their future aid is respectfully solicited.

No. XXXVIII. will be published on Monday, 12th June.

D. WILLISON, PRINTER, EDINBURGH.

HIGHLAND SOCIETY HALL.

Edinburgh, February 10.

THE HIGHLAND SOCIETY of SCOTLAND do hereby advertise, that they are to give the undermentioned PREMIUMS in the year 1809:—

ESSAYS.

I. A PIECE of Plate, of *Thirty Guineas* value, will be given for the best and approved Essay, giving a distinct account of the *Present State* of the District of Country comprehended within the following boundary; viz. from Livingstone, by the east side of the parish of West Calder, to Carnwath; and from Carnwath, by Lanark, to Dalzel, and from thence in a straight line to the Monkland Canal, and from thence back to Livingstone, describing the various improvements of which it is susceptible, the means of effecting these, and the difficulties and obstacles which are to be surmounted, together with any local advantages derivable to that district itself, or any other adjacent to, and connected with it, from manufactures, mines, or minerals, especially coal.

II. A piece of Plate, of *Thirty Guineas* value, will be given for the best and approved Essay, giving a distinct account of the *Present State* of that part of the County of Inverness comprehended within the following boundaries; viz. the boundary of the county with Argyllshire, from the Western Ocean, until it reaches Fort-William; from thence by the proposed line of the Caledonian Canal, until it reaches Glenurchart; from thence by Strathfarar to the boundary of the county with Ross-shire; from thence, by the same boundary, until it reaches Kylerhea, together with the Isle of Skye, and the small islands connected with it; describing the various improvements, in point of rural economy, manufactures, mines, minerals, and fisheries, of which it is susceptible; the means of effecting these, and the difficulties and obstacles to be surmounted; together with a view of any local advantages possessed by that district itself, or any other adjacent to, or connected with it, tending to its improvement, so as to comprehend, on the whole, an account of the most effectual means of obtaining the utmost and most valuable produce from the land and sea.

N. B. If the information received in consequence of these Premiums proves satisfactory, the Society have it in view to offer similar Premiums for other districts of Scotland.

III. It being understood that different varieties of Wheat, Barley, and Oats, are respectively adapted for different soils and situations, a piece of Plate, of *Thirty Guineas* value, is hereby offered for the best and approved Essay on the circumstances which distinguish the varieties of these grains, chiefly deserving of culture; and on the situation, soil and climate adapted to each, determined by accurate experiments, or by a reference to

well-authenticated facts. It would be desirable that specimens, weighing not less than one pound of each of the different varieties described, should be delivered in along with the Essays; and that the Essays should contain a particular account of such soil, together with its exposure and elevation; and should also state the places where these experiments and observations have been made.

IV. A piece of Plate, of *Fifteen Guineas* value, will be given for the best and approved Essay on the subject of the Smut in Wheat. The Essay to contain an investigation into the causes of this defect or disease in the Plant, with a Statement of the best methods to be taken for preventing or diminishing the occurrence of the Smut in wheat.

V. A piece of Plate, of *Thirty Guineas* value, will be given for the best approved Essay or Statement, pointing out in a distinct manner, the best method of Stapling Wool, and the best and most eligible plan of introducing the practice of the Stapling of Wool generally into Scotland.

VI. A piece of Plate, of *Ten Guineas* value, will be given for the best and approved Account, verified by experiment, of of the most economical method of Charring or Carbonizing Peat or Moss, and rendering it fit for the burning of lime, and for the uses for which Charcoal or Charred Wood is applied.

A Specimen of the Charred Peat, not less than two pounds weight, to be produced.

VII. A piece of Plate, of *Fifteen Guineas* value, will be given for the best and approved Essay or Communication on the best practical mode of Planting and Management of Woods, viz. the proper time of thinning Fir Plantations, and those of other timber; the proper time and mode of cutting Oak Coppice Wood, the management of its bark, and cheapest and best mode of Charring all species of Wood.

RULES OF COMPETITION.

In all these Essays, it is expected, that when facts not generally known are stated, they will be authenticated by proper references; and also that the Essays will be written in a fair and legible hand. The Society would likewise recommend, that one page of the folio may be left blank for any observations which may occur to Members of the Society on perusal.

The Essays on all the different Subjects above mentioned must be lodged with the Depute Secretary of this Society, on or before the 1st November 1809. Each Essay must be inscribed with some distinguishing motto or device.

A sealed note, containing the Author's name, and inscribed on the back with the motto or device of his Essay, must be lodged with the Essay; and when the motto or device on the Essay or sealed note is neglected by the Author, such Essay will not be allowed to compete for any Premium.

N. B. None of the sealed notes, except those which bear the distinguishing motto or device of Essays found entitled to the whole or a part of the Premium advertised, will be opened; and the Society are to be at liberty to publish the Essays, or extracts from them, for which the Premium, or any part of it, shall be adjudged. And such Essays as are not found entitled to any Premium, or part of it, will be returned to the Authors when called for. Further, upon application from the gainer of any of these Premiums, the Society, in such cases as they may see proper, will allow them to be given in money.

CULTIVATION OF OSIERS AND WILLOWS.

OSIERS.

To the person in Scotland who shall raise the greatest quantity of Osiers, not less than half an acre, and not fewer than 6000 planted on the half acre, in spring or autumn 1808, or spring 1809, and which shall be fit for making baskets in the year 1809 or 1810—A piece of plate of *Ten Guineas* value, or that sum in money.

WILLOWS.

To the person in Scotland who shall raise the greatest quantity of Willows, not fewer than 10,000 planted in spring or autumn 1805, or spring 1806, and which shall be cut for making barrel hoops in the year 1809—A piece of plate of *Twelve Guineas* value, or that sum in money.

N. B. The plantations must be sufficiently fenced from cattle, and kept free of grass and weeds; and certificates thereof, and of the planting the Osiers, and of the number and size of the Willow Hoops, must be subscribed by two Members of this Society, or by one Member, along with a Justice of the Peace, or the Minister of the parish, who shall state the causes of their knowledge of the facts set forth in the certificate.

MACHINERY.

To the person who shall be the first to erect, not more than seven miles from Edinburgh, a Thrashing Mill, upon the principle of the model to be seen at the Highland Society Hall, for the use of small farms, with any improvements that may render it more complete, without greatly increasing the expense—A piece of plate of *Ten Guineas* value, or that sum in money.

N. B. Thrashing Mills on the construction of the model are already in use in several parts of Scotland, particularly in the district of Dumblane, Perthshire, the expense of which has not exceeded 20*l.*; and the reason why the Society is desirous of having one erected in the neighbourhood of Edinburgh is, that a Committee of the Directors may examine it at work, and report upon it to the Society.

CLASS FIRST.

PREMIUMS for TURNIPS and SOWN-GRASSES, and IMPROVEMENT of BARREN LANDS, in the following Districts of ROSS-SHIRE.

DISTRICTS.

1. The Island of Lewes.

2. The parishes of Glensheal, Lochalsh, and that part of the parish of Kintail, lying in the county of Ross.

3. The parishes of Lochcarron, Applecross, Gairloch, and Lochbroom.

4. The countries of Strathconnon, Strathbran, and Strathgarve, and the other Highland Districts of the parishes of Urray, Fodderty, and Contin.

To the tenant in each of the 1st, 2d, and 3d districts, who shall have the greatest extent (not less than two Scots acres) of his arable land under a Turnip Crop, three times hoed in the year 1809—*Six Guineas.*

To the tenant in each of the said districts who shall have the next greatest extent as aforesaid (not less than one Scots acre)—*Four Guineas.*

To the tenant in each of the said 1st, 2d, and 3d districts, who shall have the greatest extent (not less than three Scots acres) of his arable land properly sown down, after any green crop or fallow with a crop of Red Clover and Rye grass, the crop to be carefully protected from cattle, sheep, &c. and cut in the year 1809—*Seven Guineas.*

To the tenant in each of the said districts who shall have the next greatest extent (not less than two Scots acres) managed as aforesaid—*Five Guineas.*

To the tenant in the fourth district who shall, before the 1st day of November 1809, bring into arable culture the greatest extent of land, (not hitherto improved or in cultivation, and not less than one Scots acre)—*Seven Guineas.*

For the next greatest portion as aforesaid—*Five Guineas.*

For the third greatest portion—*Three Guineas.*

N. B. Certificates as to the Premiums in the above-mentioned districts must be subscribed by two Members of the Society, or by one Member along with a Justice of the Peace, or the Minister of the parish; and, as to the Turnip and Sown-Grasses, must specify the particulars in the respective articles above set down, with any other circumstances relative to the mode of cultivation which may appear material, and must be transmitted to the Depute Secretary of this Society, on or before 10th December 1809.

Certificates of Improvements of Barren Land must specify the extent of the ground improved, with its situation and quality

before, and condition after the improvement; also the mode of improvement, with the period of its commencement, and the quantity and quality of the crop produced. To be transmitted to the Depute Secretary, on or before the 10th December 1809.

It is proposed to continue the above Premiums in the before specified districts of Ross-shire, for the year 1810, subject to such alterations as the Society may see proper.

CLASS SECOND.

***PREMIUMS** for improving the Breed of BLACK CATTLE, in the following Districts of the Counties of DUMBARTON, BUTE, and ARGYLL.*

DISTRICTS.

The first district to contain that part of Dumbartonshire to the west of the river Leven.

The second district to contain the island of Arran, in the county of Bute.

The third district to contain the district of Cowal, in the county of Argyll.

The fourth to contain the district of Argyll, in the county of Argyll.

PREMIUMS.

For the best Bull, from two to seven years old, being the property, or in the possession of any person in each of the above districts, and kept on their farm or town, from the 1st day of June to the day of competition—*Ten Guineas.*

For the second best Bull, from two to seven years old, belonging to, or in the possession of any person in each of the above four districts, and kept by him on his farm or town for the foresaid period—*Five Guineas.*

For the best Quey of three years old, the property of, and bred by the competitor in each of the above districts—*Five Guineas.*

For the second best Quey, three years old, the property of, and bred by the competitor in each of the four districts above mentioned—*Three Guineas.*

The following Members of this Society (as none but actual Members, or their factors in their absence, can be named) are hereby appointed Judges for the different districts in the order above mentioned, viz.

For the first district, Sir James Colquhoun of Luss, Baronet, Wm C. C. Graham Esq. of Gartmore, William Fergusson Esq. of Raith, or, in his absence, the Factor on the estate of Arrochar, James Denniston Esq. of Colgrain, Hector MacDonald Buchanan, Esq. of Ross, and John Buchanan Esq. of Ardoch; any two of them a quorum. Mr Denniston to be Convener.

For the second, Right Hon. Lord A. Hamilton, Hon. Lord Bannatyne, James Lamont Esq. of Knockdow, and John Fullerton Esq. of Kilmichael, Charles MacAlute Shannon Esq. of Levenstrath; any two of them a quorum. Mr Lamont to be Convener.

For the third, Sir Alexander Campbell of Ardkinlass, Baronet, John Lamont of Lamont Esq. Donald MacLachlan of MacLachlan Esq. John Campbell Esq. of South-hall, Duncan Campbell Esq. of Glendaruel, and John Fletcher Esq. of Dunans; any two of them a quorum. Mr Campbell of South-hall, or, in his absence, Glendaruel, to be Convener.

For the fourth, Lieut.-General Campbell of Lochnell, Neil Malcolm Esq. of Poltalloch, Colin Campbell Esq. of Kilmartin, or Major D. Campbell, younger of Kilmartin, John NacNeil Esq. younger of Oakfield, H. T. Campbell Esq. younger of Ashnish, John Campbell Esq. of Kilberry, John Campbell Esq. of Craigineure, Lieut.-Colonel Humphrey Graham, David Campbell Esq. of Comby, Neil MacGibbon Esq. of Glassvar, Robert Campbell Esq. of Sonachan, John Gregorson Esq. of Durran; any three of them to be a quorum. General Campbell, or, in his absence, Lieut.-Colonel Graham, to be Convener.

RULES OF COMPETITION.

The times and places of competition are to be fixed by the Conveners, with the advice of at least a quorum of their respective Committees; and the competitions are to take place betwixt the 1st day of August and the 1st day of November next.

The Convener of each Committee is to give timeous notice to the other Judges of the district, of the place and day of competition, and to be particularly careful that the same be intimated on the respective parish church doors of the districts, for at least two successive Sundays previous to the competition.

In order to entitle the competitors to their respective premiums, a regular report, subscribed by all the Judges who attend the competition, must be transmitted by the Conveners to the Depute Secretary of this Society, on or before the 10th December next, at furthest; and which report must bear the ages of the bulls and queys preferred, the length of time the bulls have been in possession of the competitors; and, with respect to the queys, that they were bred by the competitors, and were their property on the day of competition; the place and day of competition; the number of bulls and queys respectively produced thereat; and, in general, that all the rules of competition fixed by the Society, as above-mentioned, have been strictly observed; and, in particular, that the previous intimation to the Judges, and advertisements at the church-doors, were timely and regularly made, as before required.

CLASS THIRD.

To PLOUGHMEN for Improvement in PLOUGHING.

The under-mentioned sums will be distributed this season, in Premiums to Ploughmen, in the following Districts, viz.

1. Ten Guineas in the Monteith district, south of the river Teath, including the parishes of Kilmadoc, Callender, Port, Aberfoyl, Kippen in Perthshire, Kincardine and Balquhidder.

2. Ten Guineas in the Crieff district of Perthshire.

3. Ten Guineas in the Stormont district of Perthshire, to contain the parishes of Lethindy, Blairgowrie, and Pendocy, to the west of the river Erricht; Kinloch, Cluny, and Caputh, to the east of Stenton.

4. Ten Guineas in the Dunkeld district, including the country of Atholl and others to the north of the Tay, from the river Tumble on the west, to the lands of Stenton on the east; and, on the south, the lands called the Bishopric, Strathbraan, Murthlies, and Arntilly.

5. Ten Guineas in the Cushiville district of Perthshire, including also Strathtay, on both sides of the river, to the Tumble.

6. Ten Guineas in the county of Nairn.

7. Ten Guineas in a district of Forfarshire, to contain the parishes of Forfar, Kirrymuir, Inverarity, Dunichen, Oathlaw, Carrolstone, Fearn, and Tannadice.

The whole of the above Premiums in this Class to be competed for at such places and times, and in such manner as the Members of the Society, resident in the respective districts, shall find most proper; these Members being appointed as Committees for that purpose.

Sir John Macgregor Murray, Bart. for Monteith; Sir Patrick Murray, Bart. for Crieff; Sir Alexander Muir Mackenzie, Bart. (in his absence Colonel Macpherson of Blairgowrie) for Stormont; his Grace the Duke of Atholl (in his absence Thomas Palliser Esq. his Grace's factor) for Dunkeld; Sir Robert Menzies, Bart. (in his absence Neil Menzies Esq. younger of Menzies) for Cushiville, districts of Perthshire; Hugh Rose, Esq. of Kilravock, for Nairnshire; and John Mill Esq. of Norranside, for the above district of Forfarshire, to be Conveners, with instructions to report in writing to the Society, on or before 30th December 1809—it being understood, that any Ploughman who may have formerly got the highest Premium, shall not be allowed to compete.

The Society, in addition to the above sums of Ten Guineas, likewise give a First and Second Silver Medal to the best and second best ploughman in each of the above districts. The medals to be had of the Depute Secretary, on application from the Conveners.

N. B. As these Premiums are offered for the purpose of exciting emulation among the tenantry and servants, the Society expect that their resident Members will countenance the competitions by their attendance; and therefore require, that at least three members shall be present and subscribe the report.

The Society further, being desirous that, in those counties and districts where ploughing-matches were formerly given by the Society (viz. Ayr, Dumfries, Wigton, Dumbarton and Peeblesshire, Upper and Middle Wards of Lanarkshire, Stewartry of Kirkcudbright, districts of Dunblane, Perthshire, and Kintyre, Argyllshire), the country gentlemen should themselves continue to encourage improvement in this branch of husbandry, by instituting ploughing-matches;—the Highland Society will give a Silver Medal to the ploughman found to be the best at each of the first four competitions instituted by the resident Gentlemen in each of these last-mentioned districts in 1809; it being required that twelve ploughs at least shall start at each competition; and that at least one Member of this Society shall be present at such competitions instituted by the resident Gentlemen, and report thereon to this Society.

A Report of the Proceedings of the Agricultural Society of the Rhins of Galloway having been laid before the Directors of this Society, the same was approved of; and, in particular, the Society's practice of periodically inspecting the improvements made by the different farmers within that district; and, as a mark of such approbation, the Directors have voted the Highland Society's Silver Medal, with a suitable inscription, to be presented to Mr DAVID SHANK, Secretary of the Rhins of Galloway Agricultural Society.

By order of the Directors,

LEWIS GORDON, Dep. Sec.

D. WILLISON, Printer,
Edinburgh.

THE

FARMER'S MAGAZINE:

JUNE, 1809.

(No. XXXVIII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the first Principles of Agriculture.

SIR,

As every trade and profession must now-a-days have its axioms, postulata, or first principles, in order to give it a scientific dress among other crafts, it is highly reasonable, that the art of agriculture, which is now almost completely reduced to a science, should also be permitted to assume its first principles. Without the knowledge of first principles, nothing can be expected from any of the practitioners of agriculture worthy of attention, their practice being merely a copy from that already established, if not some gross deviation perhaps from the beaten track, by means of some erroneous idea of their own conceiving. Men, acquainted with first principles, will never deviate from them, while they find them correct: perhaps they may try some experiment consistent with them, and succeed. This, then, is the foundation from which we are to expect a rational system of agriculture, adapted to all the varieties of soil, climate, and seasons, with which it must ever be connected.

It is true, that, by means of great attention to, and a careful and judicious imitation of, good farmers, a man of mean talents is sometimes known to make a tolerable figure in this line.—He may raise good crops; and good crops are no bad criterion of good farming. Indeed, a man, otherwise a blockhead,

at least one who has no notion of first principles, often excels those who adhere to them with scrupulous exactness; but this must be only where the knowing man wants the talent of strict application. This talent is an essential requisite for a farmer; indeed it is indispensable in every occupation where success is desired.

The general principles, upon which the success of agriculture depends, are,

1. Without draining wet land, no improvement.

2. Unless land thus *drained*, is *properly cleaned*, the object of draining is frustrated, and that in proportion as this operation is executed.

3. Manures will always fail in producing the desired effect, in proportion as draining and cleaning are neglected.

4. Early sowing always produces shorter and stiffer straw than late sowing, and that in exact proportion to the times, when not affected by extraneous circumstances.

5. The various species of seed-corn are adapted to various soils, situations, seasons, and other circumstances.

6. Picking and propagating the best heads of the most approved kinds of grain and seeds, is the surest method of preserving them undegenerate.

Draining.—This article has been amply discussed by able hands, and Elkington's mode of draining is universally known. Almost every field has its own peculiar circumstances; and the general idea of intercepting the spring is an established principle in this art. But sometimes, when there is not sufficient descent to allow the drain to be cut as low as some deep sand or water gravel, where the springs lye, a few pits (to be afterwards filled with stones), or some holes by the boring irons, will have a surprising effect in raising the water into that drain, otherwise too ebb to reach the springs, and thereby carry it off. It is not my design, in this place, to enter into the minutiæ of draining, but to introduce it as a first principle in farming.

Without draining, no improvement.—Without it, no other operation can be effectual to the end proposed. When land is gorged with water, it cannot be cleaned. No labour is sufficient to do it, except in a very uncommon drought;—in some soils, not even then: and when land is not clean, it is impossible to suppose that dung, lime, or any other kind of manure, can have its full effect. Dung will promote the natural grasses more than any kind of grain which may be sown; and these, although the land is sown with artificial grass seed, will still thrive, and render the ground completely fit for a summer fallow immediately after dirty lea oats.

Cleaning.

Cleaning.—This article requires the farmer's constant attention, and by this alone can be rendered effectual. Early ploughing is of much importance; and it is impossible to be too early at summer fallows, when spring sowing is over. As I at present speak chiefly of land in the second stage of improvement, it must not be considered so clean as in future it may be expected. We shall suppose the land of a free nature, but extremely dirty by means of its late moist state previous to draining; and that it has been capable of carrying one or two crops of oats, in order to reduce its surface sward; and is now under summer fallow. Every farmer may plough to his own mind, according to the nature of the soil, and the grass he has to destroy: but, in general, light ploughing is sufficient to kill grass, which generally runs near the surface; and then, before the manure is applied, a strong furrow is of much use, to mix new earth with the dung. At same time, some soils will not admit of a strong furrow, unless in the spring, before the moisture is exhausted. In such situations, harrowing, rolling, and gathering grass roots frequently after every ploughing, is essentially necessary; but it is not my design to teach either ploughing or harrowing.

Manures.—Neither is it my design to treat of the nature and properties of manures, and how they operate upon land, so as to produce better crops;—whether by communicating to the soil the vegetable food which they contain;—whether by enabling it to attract nourishment from the atmosphere,—or by enlarging the vegetable pasture which it contains,—or by dissolving that which the soil already contains, so as to prepare it for entering the roots of plants. These are philosophical inquiries, not essentially connected with the present business. Upon this subject, there are various theories, some of which are extremely rational, and others extremely absurd. Concerning the salts, which are an essential ingredient of dung, it is certain they cannot evaporate; but the oil and watery parts certainly will. We have a good illustration of this hypothesis, in the operation of the sun upon salt water. In warm climates, the sun exhales every thing from salt water, when exposed to its influence, except the salt itself. In this way the inhabitants of such climes obtain that commodity. It is even gathered upon rocks, which the sea has abandoned after lodging a part of its water upon their exposed surfaces. But, when exposed in a more equal and regular manner, on an even surface, it is much sooner and more easily obtained.

When dung is carried to a field of summer fallow, and spread out green (as it ought to be), till the act of fermentation has completely ceased, the oils must evaporate. But, as experience

teaches us, that no material difference can be discerned between that which has been spread and that which has not, we must conclude, that the oils become fixed as soon as the dung dries; and that the essential qualities of the dung are thereby preserved, and ready to exert themselves as soon as mixed with the soil.

Early sowing produces less straw than late sowing, and that in exact proportion to the times (cæteris paribus).—The knowledge of this principle, which has not been discovered, at least not attended to, till within the last twenty years, is of much importance to the farmer. Before it was known and practised, the hazards of sowing land in a very high state of cultivation was very great. Oats or barley sown in such condition, at the usual period of seed time as formerly, viz. oats, late in March, and barley about the term of Whitsunday, would have been often entirely ruined by being too strong. English barley (commonly from Lincolnshire) and Dutch and many other early kinds of oats, were adopted without changing the time of sowing: and as these have a tendency to produce shorter straw, they were found of much advantage in securing a full crop without lodging. But it is found that any of our oats sown early, produce a shorter and stiffer straw, which has the same effect. Early oats, however, are still much in vogue. The Lincoln barley is almost out of repute. It is well known to some farmers, that the common Scotch barley is the best substitute for it,—as, when sown early, its straw becomes shorter, much stiffer, and less apt to lodge. Potatoe oats are a new species introduced within these very few years; and are said to be natives of South America. It appears they were first imported into some of our Midland counties of Scotland, in a quantity extremely small; and that they obtained that name from the circumstance of their arriving in a *package of potatoes*. This is a valuable kind of oats in point of meal, yielding two to three pecks per boll more than the Angus, which, in every other respect, we reckon our best oats. They appear to be again losing ground in the estimation of some people. They are more apt than any other kind to keep the soil, like wild oats, and thereby to annoy the succeeding crops. It seems to be apprehended that, were they to be frequently shaken and ploughed in dry, that they would be as great a weed too. They seem to have another disadvantage, which, in the present circumstances of our labour, is not a small one. They ripen along with the wheat; and that article being now more than ever the chief object of the farmer, it is in danger of occasioning very serious consequences as to the timeous cutting of that crop. Potatoe oats are also extremely apt to shake, and seldom fail to drop in shearing. All kinds of early oats are fit only for fine land, or land in a high state of cultivation; but upon inferior

inferior land, they are the best, when a bad season has thrown the seedtime too far back for common ones. Blainsley oats are our native early, and have a finer meal as well as finer straw; but they seem mostly out of favour at present. These several varieties of oats and barley afford the farmer great advantages in securing his grass-seeds, as well as his corn crop, in certain seasons and situations.

As to spring wheat, the dwarf kind, which is known to produce short straw, and is an excellent flouring kind, is also advantageous in the above circumstances; and as it has a natural tendency to produce short straw, it ought certainly, upon rich soils, to be preferred in winter.

Picking out the best heads of the most approved grain, is the best method of preserving the species from degenerating.—It must be evident to every one, that grain has a constant tendency to degenerate. But whether its species suffers or not, it must, by a thousand circumstances, be so blended and mixed with other kinds, and even with different grain, that it requires frequently to be renewed by picking and propagating the best heads. This is found by experience to be the surest method of preserving the grain; and so different is the produce of the earliest and most vigorous ears from that of the poor diseased ones, that it has generally obtained some name to distinguish it from that even of its own kind. A farmer in East Lothian, (a Mr Hunter) some years ago found, in a cold, bleak situation (Coldingham muir), a very fine looking vigorous head of wheat; which, being ripe at a period earlier than might have been expected from its situation, he brought with him; and having repeatedly sown its produce, has at last furnished seed to a considerable part of that county, and even to farms in many a distant county. It is an excellent kind of wheat; being considerably earlier and more prolific than any kind we are yet acquainted with. Mr Hunter has great merit, not only for his original attention to this article, but for the unremitting vigilance bestowed in preserving it free of mixture. It is now distinguished by the name of *Hunter's Wheat.*

These hints, Mr Conductor, may perhaps be of some use to farmers who are only about the beginning of their agricultural pursuits. They may cause a little reflection, and occasion rational experiments, which may confirm, in their mind, the utility of such first principles, upon which they were made.

If you think it can tend to any good purpose, you may put this into some corner of your Magazine, that it may be seen by those who chuse to read it; otherwise, let it be condemned to the flames: or, even should the subject be anticipated, which I know nothing of, being but an occasional reader, let that condemn it.

I am, &c.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IN your useful work for May 1806, I communicated a few observations on the inutility of smearing sheep with an ointment of tar and butter; and now beg leave to offer some remarks upon the answers made to that communication.

Possessing a sheep-farm situated in a very high and cold tract of ground, (from 800 to 1000 feet above the level of the sea,) I designed, ere this time, to have given you the result of some experiments on the subject of salving; which communication, however, I must yet defer.

Suffice it at present to say, that I have satisfied myself that the practice of smearing is useless, even in my high climate; and I shall beg leave to state one fact from which, in part, my conclusions are drawn. I purchased, in summer last, two scores of Cheviot wedders, which had been smeared as all my Highland or black-faced stock used to be. These Cheviot sheep I did not smear, notwithstanding the clamour of some of my neighbours, who predicted, as a consequence, the ruin of their flocks, as well as of mine by the scab. My wedders are, however, every one of them alive and in good health, and their wool is in most excellent order, although a more severe winter for the flocks in my neighbourhood has not been experienced these forty years. I did, it is true, rub them with tobacco liquor, which is easily and cheaply done, and effectually destroys all vermin that affect sheep.

Your correspondent S. L. A., who answers my observations in November 1806, (vol. 7, page 427.) just takes up the ground of tarring being a panacea for curing every disorder to which sheep in high climates are incident. That remark I endeavoured to undermine, by comparing this salve to a *nostrum* that *cures all diseases, if curable.*

He indeed does not mention Braxy by name, in the catalogue of ills that this nostrum is a cure to; but he has a sweeping clause that includes this disease and a thousand more. 'Again, (says he) smearing is a mean of continuing the vigour and strength of sheep unimpaired, for some years longer than would otherwise take place if kept unsmeared.' What more does any quack pretend, than to add to his patients a few more years of vigour and strength unimpaired!

The particulars that S. L. A. condescends on are, that smearing keeps sheep on mountainous grounds dry, warm, and free from scab and lice; and is, moreover, beneficial to their wool.

I have already made some observations on all these topics; and I would here be inclined to enlarge them, were I not seriously held

held in check by the concluding knock-down argument of your correspondent, who says, that the long continuance of the custom of smearing, from time immemorial in this island, and the practice of the ablest storemasters, are irrefragable proofs of its utility. Very true—and the custom for time immemorial in this island, and the practice of our ablest kings and lawgivers in burning old women suspected of witchcraft being also irrefragable proofs of its utility, he may, upon the same principle, be for continuing this practice likewise.

I shall now consider what Mr S. L. A. says on the utility of smearing. After alleging that smearing keeps sheep dry and warm, he observes, that tar and butter, being of an unctuous, oily nature, resist the rain in the same manner as the feathers of water fowls continue dry even when swimming. For this reason, then, a dunghill hen, when she happens to be the stepmother of a brood of ducklings, may be tried to be rubbed with tar and butter, and thus becoming, by the art of man, a water fowl, she will no longer stand hesitating on the brink of a pool, but boldly follow her brood, and so change her natural element, precisely as the superior genius of a Dædalus or a Wilkins, by clapping a pair of large wings to a man's shoulders, could make him mount the aerial fluid, and vie with the eagles of the sky.

But further, my respondent adds, by way of illustration, as every pile of wool from its root to its top, is anointed with this unguent, and as the wool grows in a hanging position, like the thatch of a house, so it accelerates the rain from the animal without drenching it to the skin, which would unavoidably be the case if unsmeared.

Now, this suggests naturally an elegant improvement to thatched roofs, which, if they were smeared with tar and butter, there would not be one for ten of them that would let in rain.

There is one thing, however, that puzzles me not a little, when thinking of this subject, and which no doubt S. L. A. can easily explain. Those useful articles called Umbrellas, when expanded, are in a hanging position, like the thatch of a house, or the fleece on a sheep's back. Now, I remember, when they came first to be used in this country, they were universally made of oil-cloth or wax-cloth, and perhaps some of them of tarred-cloth, being all covered with an unctuous oily matter, to accelerate the rain, and prevent its drenching us to the skin. But at present they are all made of silk, cotton, or woollen cloths, unanointed; and how the rain does not run through them, is past my comprehension.

I most cordially agree with S. L. A. that any cover that will prevent wetness must contribute to retain warmth. But although I were to admit that smearing acts as a preventive of the scab, and

deſtroys cades, it remains to be proved that tar is the cheapeſt or moſt effectual cure for theſe ills; which S. L. A. has not attempted to do, by contradicting my former ſtatement in favour of tobacco liquor.

The next poſition that S. L. A. defends, and perhaps the moſt important of the whole is, that 'want of ſmearing deteriorates the quality of the wool.' But as I am not ſufficiently acquainted with the wool-ſtapling or manufacturing buſineſs of the fleece, I must refer this matter of diſpute to a very eminent late publication on the ſubject of wool, by Mr Luccock, wool-ſtapler; wherein that author (p. 333.) expreſsly ſtates—

'The practice of laying wool, with a dirty mixture of tar and butter, was generally adopted in Northumberland; but the late attention to ſheep-farming, and the judicious experiments which have been made in this angle of the kingdom, have ſhown that ſmearing is not, as was ſuppoſed, abſolutely neceſſary either to the health of the flock or the good qualities of its fleeces. Among farmers who reſide in the lower ſituations, and who keep flocks of the long-wooled ſheep, the practice is almoſt laid aſide; and many ſhepherds, even upon the hills, have omitted it without detriment to the ſtaple.'

P. 131.—'Tar is a dirty and tenacious ſubſtance, adheres to the wool ſo cloſely as frequently to corrode the hair, rendering the part to which it is immediately applied, thin, rough and weak.

'When affected by the filthy cuſtom of ſmearing, the pile is leſs capable of acquiring the ſofter and more delicate tints, which it is often deſirable to communicate to the different articles of the woollen manufacture. A portion of that dirt, which it obſtinately retains through every previous proceſs, is diſſolved among the ingredients in the dyeing vat, and diſqualifies them from communicating that vivid luſtre, which they would have afforded to a purer wool, even though the artiſt ſupply his pans with a much larger proportion of the colouring materials. In the ſubſequent proceſſes of the manufacture, this filthy ſtaple produces much greater inconvenience, and it is ſubject to more conſiderable waſte than the purer pile, even though we make every reaſonable allowance for the weight of dirt which it obviouſly contains. In the jenny and the loom, the machines employed in ſpinning and weaving it, more dexterity and patience are required of the work-people; and the cloth which it produces is inferior in its quality, and ſmaller in quantity, than might have been obtained from the ſame pile in a pure ſtate.'

As I preſume your correſpondent S. L. A. is not a wool-ſtapler, I hope he will bear the lecture which Mr Luccock gives him, with deference and reſpect; and in that ſtate of mind, I diſmiſs him, to

ſay

ſay a few words to my other antagoniſt, who ſubſcribes himſelf, in your Magazine for February 1807, (Vol. VIII. p. 93), *A Border Farmer.*

This perſon, when he attempts to diſplay knowledge, ſhows ignorance; and, in the place of wit, puts, what no doubt is the neareſt it he is acquainted with, ribaldry. That this falſe coin ſhould have been offered to the acute Conductor of the Farmer's Magazine, I do not wonder; but I wonder much that it has been received.

This pretended Border Farmer, not knowing that Tick is the claſſical word for the animal that is provincially named a Cade, or that *hippobosca ovina* is the Linnæan name of it, tells us that ticks are bred in the ground. Not knowing that it is a proverb among ſheep-ſmearing farmers, that ſometimes a ſmearing is as bad, that is, as fatal, as a ſtorm; he ſays he never heard of any loſs by death, or the health of ſheep being injured by ſmearing. Not knowing what Mr Luccock, or any other intelligent wool-ſtapler has ſaid on the ſubject of tar deteriorating the wool, he ſays that the wool-ſtaplers like tarred wool as well, if not better, than the unlaid. Not knowing that a ſheephouſe capable of containing fifty ſcores of ſheep, may be erected at the ſmall expenſe of thirty pounds, and that the ſum of one hundred pounds, judiciouſly laid out in ſheephouſes, may afford ſhelter to a flock of a hundred and fifty ſcores of ſheep, he ſays, no houſes are or can be erected to ſhelter the thouſandth part of the ſtock bred on the Border Hills. Not knowing that Highland wool, which he characterizes as requiring ſix laid fleeces to make a ſtone weight, is ſold at from 6s. to 8s. per ſtone, he ſays, that he ſuppoſes the laid wool is ſold at 36s. and the unlaid at 38s.; and that the wool-ſtapler is ſo wiſe as to give the ſmearer a profit of 9d., being more than half the value of the fleece, for the weight of tar that is upon it. Who could be deceived ſo far as to believe that this writer is a Border Farmer?

Edinburgh, 1807. A. S.

[The above Paper has been longer delayed than we intended; but the delay enables us to accompany it with the following additional obſervations on the Smearing of Sheep, which we inſert with ſatisfaction.]

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *22d April*, 1809.

IN addition to my former papers on the subject of salving sheep with tar and butter, I beg leave to state, that after trying successfully,

successfully, by degrees, to lay aside the practice of smearing my mountain flock of sheep, I last year gave it up almost altogether. Indeed, the only sheep of my flock that were tarred last winter, were the hogs, or young sheep, and these very slightly.

My whole ewes and wedders, consisting partly of the Cheviot breed, but mostly of the black-faced sort, to the amount of between twenty and thirty scores, were rubbed in November last with tobacco liquor only, for the purpose of destroying the cades or ticks (*Hippoboscæ ovinæ*), which this liquor effectually kills. And notwithstanding the unparalleled severity of last winter, my flock were more healthy than usual.

Exclusive of the hogs which were smeared with tar and butter, and of which sort several died this spring; and exclusive of a few scores of old sheep, that were set apart into an enclosure to be fed with turnips, there has, of my mountain flock, which were left unsmeared with tar, died, during the period of winter and spring, only one ewe from accident, and another from disease.

I learn also, that some of my neighbours, probably induced by the present high price of tar, have begun, last winter, to smear their flocks of sheep with whale oil, without any other mixture; and they say it kills the cades, and is beneficial to the wool; and that no more of their flocks have died since giving up the tar, than was usual in such seasons as this.

I beg leave to remark, that the smearing with oil costs about threepence each sheep; whereas the rubbing with tobacco liquor costs no more than about fourpence for the salving of a score of sheep; which is surely a matter worthy of some consideration.

Give me leave, however, to observe, that on my farm I have erected a sheephouse capable of containing my whole flock, on what has been accounted by many who have seen it an excellent plan, and at the moderate expense of between 20*l.* and 30*l.*; and I have also a plentiful supply of meadow hay for my sheep.

I have further to remark, that last autumn I did not wean any of my lambs; and whether it arose from that circumstance or not I cannot tell,—but it is certain I did not lose one of my lambs from the sickness in the end of harvest, although most of my neighbours suffered severely from this disease; and my shepherd did not think my ewes were in any degree the worse for this practice.

Last year, also, on account of the great severity of the weather during the month of April of the two former years, by which a large proportion of the lambs, being yeaned in the midst of snow, died; and on account of the general severity of the weather, and consequent want of food for the ewes in this climate during the month

month of April, which is the ordinary yeaning season of the mountain sheep of Scotland, I judged it expedient to keep my rams secluded from the ewes, in an enclosure, till the beginning of December, in order that my ewes might not yean till the month of May. No doubt, there are some disadvantages to be expected from this practice, of which I am aware; but after a fair trial, I shall communicate to you the result.

A. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Inventor of the Thrashing Machine.

SIR,

IT is a matter of astonishment to every true lover of his country, that public merit often sinks into the grave without reward. Very probably, the inventor of the system of tactics which has been the means of fixing our naval superiority, will leave this world without having any substantial mark of public favour bestowed upon him, and must rest contented with the universal admission of his merit and great services; which is indeed a great reward to a man of a great mind. But it is the duty of the public to encourage talents which are devoted to its service, and to reward their exertion by something more than mere words. There is a venerable person in your neighbourhood, to whom the country is perhaps as much, if not more indebted, than to the inventor of the present system of naval tactics. Has not MR MEIKLE improved agricultural tactics, by the invention of the Thrashing Machine, to a degree which renders the improvement of the country impossible to be calculated? If any man can judge in this matter, you can. And are the farmers and proprietors of Scotland to suffer this old man, now above ninety years of age, to finish his career, without having some proof of the sense which the nation entertains of his merits? I beg, Sir, that you will assist in rousing that spirit of liberality well known to exist in the country. I therefore propose that a subscription shall be opened, in order to afford an opportunity to proprietors and farmers to testify their sense of obligation to Mr Meikle, by presenting to him a piece of plate, or some other thing. I think that the secretaries of the different clubs of farmers should be appointed to receive subscriptions in the several counties; and that the county of East Lothian, where Mr Meikle resides, should have the chief management. If the subscription shall go on as I expect it will, I shall propose what I think should be given to Mr Meikle, by the committee of management. I beg you will give this a place in the earliest Number of the Farmer's Magazine; and

and if my proposal is approved of, it may be mentioned to your neighbours; and before the next Number is ready, you may be prepared to announce the appointment of a committee, and the names of the gentlemen composing it.

I am, Sir, your most obedient servant,

27th March, 1809. ——— A PATRIOT.

NOTE.

THE Conductor highly approves the proposal of his patriotic correspondent, and will cheerfully lend his aid towards carrying it into execution. It is an old saying, that a begun turn is a half ended one: Therefore, if the respectable gentleman who favoured us with the above communication, will form a plan for opening a general subscription amongst agriculturists to reward Mr Meikle, it shall be announced in the next Number of this Magazine. We are quite aware, that some people entertain doubts whether the Thrashing Machine was invented by Mr Meikle; though we are satisfied that there is not the slightest foundation for these doubts. Thrashing machines unquestionably had been attempted by others previous to the erection of the one invented by Mr Meikle; but none of these machines were perfect, or capable of separating corn from the straw in a satisfactory manner. By Mr Meikle's machine, the arduous task of thrashing is performed in the most complete manner; to the great benefit of the public, and advantage of every one concerned in the art of agriculture, or possessed of territorial property. N.

FOR THE FARMER'S MAGAZINE.

Cursory Remarks on the Bankrupt Laws.

THE vices of men seem not to be measured by their pernicious consequences to society, but according to the rank of the persons to whom they are in a manner peculiar. While the vices of the lower ranks are viewed with abhorrence, and punished with the utmost severity, those of the higher ranks are passed over with lenity, and scarcely reflect any disgrace on such as are guilty of them. The stealing of a sheep, for instance, is by law punished with death, because it is a species of crime peculiar to the lower ranks, (which indeed is not much to be wondered at, considering the hardness of their lot); and a person in high rank suspected of such a crime would be indelibly disgraced, though it might be alleged in his defence, that he was driven to it by the pressure of want. Yet this gentleman thief, by a different course, might safely enough have robbed his neighbours of thousands of pounds. We shall suppose that he is a merchant; that he has ruined his affairs by extravagant speculation and extravagant living, (the two

two go hand in hand); that he has resolved to stop payment; nevertheless, that, to swell out his composition, he goes to his neighbour, an honest unsuspecting man perhaps; worms himself into his confidence, purchases goods to a great amount, and then proclaims himself bankrupt. What is the result? That he is still a man of honour, and has the effrontery boldly to challenge the world to accuse him of one dishonest action; that he is admitted into all companies as well as formerly; can even scoff at the mean way of living of some of his creditors; and is frequently the loudest in company in condemning the knavery of the poor, and expressing surprise at the lenity with which it is treated. If any one censure the act we have mentioned, his mouth is stopt instantly by the vulgar observation, 'that people in such a situation do many things that at other times they abhor.' Situation, however, is never heard with temper, when urged in favour of the lower ranks. Whence can arise this miserable perversion of all sound principle? Only from the political helotism in which the lower ranks are held.

The tax upon the whole society, in consequence of the frequency of bankruptcies, seems not to be understood; it is, therefore, a subject worth inquiring into.

We shall take the article of cotton, and endeavour to ascertain how much the price of the cloth is raised by this means to the consumer. The American merchant, knowing that he is liable to losses by the failure of those to whom he sends his cotton in this country, lays one and a half *per cent.* upon it, to cover any losses that he may sustain - - - - 1½ *per cent.*
The merchant here does the same to the spinner 1½
The spinner to the weaver the same - - 1½
The weaver to the shopkeeper the same - 1½
The shopkeeper has innumerable bad debts, and many of them being too small to afford legal expenses for their recovery, he is obliged to lay double *per centage* on his goods on that account - 3

9 *per cent.*

Thus, the honest consumer, besides paying a profit to every one through whose hands the article passes, has nine *per cent.* to pay in consequence of others living above their incomes! Nor is it on this article alone that he is so taxed;—all articles are taxed in a similar manner. That we have taken this insurance of bad debts low, must be allowed by all who are in the least acquainted with the subject.

The honest merchants and manufacturers, notwithstanding this insurance which they exact, often suffer prodigiously—by extravagant

vagant knaves and fools commencing business in the same town, and in the same line, who live in what is commonly called style, —and, by underselling, do much business; so that the others are obliged either to retire altogether from the market, and then it is no easy matter to get a footing again,—or they must submit to the prices of their rivals, how much soever they may lose by it. In the latter case it becomes merely a trial of bottom: the extravagant probably soon fail, and then the honest and industrious expect to make up their losses by the increased prices of goods from the want of competition. But alas! some connexions of their late rivals, with whom they have dealings, fail likewise, and involve them to a great amount. This was unexpected; their bills become due; the provision made for them is gone; and therefore, to meet their payments, they are obliged to sell the greater part of their goods at what they will bring. In the mean time, it is likely that some upstarts, without property, knowing how mildly they shall be dealt with in the event of failing, begin business; setting their all upon a cast, they buy up the goods, and perhaps reap the fruit of their predecessor's failure. In this way the honest, sober, industrious man, is too often ill rewarded for his pains; he is despised for the plainness of his living, by those who riot at their neighbour's expense, and not unfrequently by the very persons by whom he has suffered; his domestic peace, too, is destroyed by the continual reflections of his wife and children, that they are not kept like other people.

It cannot be denied, that the consumers are, for the time, benefited by the overstrained competitions that we have been speaking of; but then they pay smartly for it afterwards. The good dealers being driven from the market, those who remain cannot bring their articles into it but at a high price, in consequence of the risk that people run in trusting them. This of course falls upon the consumers.

But the greatest evil arising from frequent bankruptcies, is the ruin of the public morals. If we look around us, we shall find that the really wealthy are, for the most part, either desperate speculators who have been fortunate, or men who, by laudable industry and parsimony, and by detestable cunning, have acquired some property, and who then devote their whole time to hunt after bargains; that is, they are ever on the watch for people in necessities, whom they get into their toils, and wring their property from them in various ways,—such as, by advancing money on goods, and then taking them off at an undervalue, when the poor wretch is unable in due time to relieve the advance. Wealth begets respect; and therefore, a set of desperate gamblers, and crafty knaves, without one good quality to recommend them, are, even

even while despised, admitted into all companies. Of course, in the outset of life, the young man is taught to desire wealth, without scrupling the means of acquiring it; to love splendour, without attending to his ability to support it; and, consequently, soon becomes a compound of avarice and prodigality—one of the most depraved characters in nature.

If such evils arise from bankrupts, who can, without indignation, see the abilities of such as Fielding and Sheridan prostituted to defend them? or, what shall we think of a Prime Minister, who has the impudence gravely to tell the nation, in reply to those that urge the impolicy of his measures, from the bankruptcies they have occasioned, that frequent bankruptcies evince the flourishing state of the nation? Fielding says, poor Booth was mercilessly dragged to jail, because he was wickedly unable to pay his debts; but the wickedness did not consist in his being unable to pay his debts, but in contracting debts which he well knew were beyond his ability to pay. He indulged, says he, in a few little elegant expenses, and that brought upon him the severest displeasure of his creditors; and very justly it did so. Many of his creditors, no doubt, were obliged to deny themselves any of those little elegant expenses, that they might make some small provision for their families; and it was certainly hard, indeed, to see that taken from them by the unjust luxury of another. The School for Scandal is, in many respects, one of the first comic productions on the stage; but it is immoral to the last degree; and vice is decked out in such colours, as to have the most injurious tendency to youth. Joseph is universally detested; yet, such is the author's art, that there are few who do not love Charles. Let us coolly compare the two characters, and we shall find ourselves at a loss which to prefer. Joseph was artful, close and malicious. In artfulness, Charles could not be his inferior, if we reflect on the many tricks that he must have resorted to, to get into the books of poor tradesmen. If he was not equally close, we must remember, on the other hand, that Joseph paid his debts. As to maliciousness, I do not know what term to apply to that embrutement of the mind, which can lead a man to mock poor tradesmen who have suffered by him. But Charles was generous. Was it, indeed, generosity to rob the industrious of their hard earned pittance, and give it to the idle and profligate? I have judged it right thus far to expose these authors, as I am convinced that their writings have had the effect to blindfold many well meaning people, as to the real moral turpitude of contracting debts which one cannot pay.

Those who allow the truth of the foregoing remarks, must also allow that the present bankrupt laws ought to be completely altered;

tered; and that, as the man who contracts a debt of twenty shillings, which he knows he cannot pay, is equally guilty with him who steals that sum in the vulgar manner, the punishment should be the same. The taking away the life of a man for stealing a few pounds, has long appeared, to humane comprehensive minds, a most unjustifiable cruelty. Were bankrupts put upon the same footing with common thieves, many would come over to that way of thinking, and a milder punishment would soon be substituted. What the punishment should be, it does not become me to determine. Let it only be established, and let all bankrupts suffer, who cannot prove to their jury, on trial, that their failure was owing to inevitable misfortune, not to any misconduct on their parts. Such accounts, as are generally rendered, ought to be rejected with contempt. One says, I have lived at very little expense,—look at my books. The question should be, did your income allow you to spend so much? No; but my station required it. Your station is nothing to us—the jury should return: we look to your income. Another offers as his plea, that the speculations which he entered into had every chance of success; but, owing to some unforeseen cause, they failed. Since they failed, it would naturally be answered, they had not *every* chance of success. You had no right to risk other people's property, for your gain.

I cannot leave this subject without one remark more. The man who imposes a forged bill upon his neighbour, is hanged for it; but what difference is there, except what the law makes, between this and giving one's own bill, knowing it to be good for nothing? SOLON.

NOTE BY THE CONDUCTOR.

THOUGH the above Essay, strictly speaking, does not relate to the subject of Agriculture, we have been induced to give it a place for the following reasons. 1. Because it contains sentiments of an original cast, which might be advantageously used, were the principle of the bankrupt laws to be revised: And, 2. Because every farmer, less or more, is exposed to losses when bankruptcies take place; consequently, is interested in the question investigated. It is evident to every one, that fraudulent bankruptcies are too easily passed over in this country; and that the disgrace accompanying a failure in business, is far less than what it ought to be. On these accounts, we applaud the remarks of our ingenious correspondent, and respectfully request a continuance of his correspondence. Would he turn his attention to the preference given to the proprietors of land by the laws of this country, when a tenant becomes bankrupt, we are convinced that his observations would confer a favour upon the public, of considerable magnitude.

N.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IF you think the following hints concerning the Larch deſerving of public notice, I have no doubt but that they will receive a place in your uſeful Magazine.

Larch has not ſucceeded, in general, ſo well as was expected ſome years ago, from the promiſing appearances then made while young, in almoſt every ſituation where it was planted. Larches have been attacked by inſects, which have been ſuppoſed to be the cauſe of their decay. Although theſe may, in ſome meaſure, have haſtened their decay, yet I do not ſuppoſe they were the entire cauſe of it; becauſe, all the trees deſtroyed, ſeem, firſt of all, to have been in a ſickly ſtate from other cauſes, and of courſe unable to bear the attacks of the inſects. Their punctures, no doubt, occaſioned ſuch a waſte of the juices of the plant, as, when in an unhealthy ſtate, muſt have haſtened its decay. The greateſt miſchief was done in dry ſummers, when the plants were leſs vigorous than in wet or more favourable ones.

I have obſerved in Lord Seaforth's plantations, where the ſoil is tolerably good, or of a kind favourable to the growth of other trees, ſuch as beech, oak, cheſnut, &c. that the larch has done well, and withſtood the attacks of the inſects, except where too thick, or too much confuſed by other trees, and ſo become unhealthy; in which caſe, they have in general ſuffered, even although the ſoil was favourable.

In moſt inſtances, for the firſt four or five years after planting, larches have done well; and, after that term, they either decayed, or ſuffered much from inſects.

It is well known, that ſoil that will afford nouriſhment to a young plant, and where it may even thrive well for a time, is not always ſufficient to afford nouriſhment when it gets older. Thus the plant becomes ſickly for want of proper food, and at laſt may fall a prey to inſects. For inſtance, vegetable mould, and light ſoil, is moſt favourable and kindly for young plants to ſtrike root in; but, after ſetting off in a vigorous and promiſing manner, they ſtop ſhort after a certain time, according to the ſort of plant, entirely for want of proper nouriſhment: this I ſuppoſe to be the caſe with the larch.

It is, in general, between 5 and 15 years of age, that larches have ſuffered moſt; and from the obſervations made, I ſuppoſe, although the inſects had never attacked the trees, that they never would have ſucceeded or come to maturity, (although they might have ſtruggled to live a few years longer, had they not been attacked), becauſe the ſoils in which they were planted, and other circumſtances already mentioned, were unfavourable to the growth of larch trees.

In wet ſoils, or thoſe retentive of moiſture, larches will not ſucceed for any length of time, nor will they ſucceed at all in a poor, thin, dry ſoil; but, though the ſoil is moderately moiſt, and even occaſionally flooded with water, yet if the bottom is not retentive of moiſture, they will generally do well. As a general rule, it may be ſtated, that where the oak and the beech does not thrive, the larch will not come to perfection. On bottoms not wet, and on the ſides of hills and banks, larches generally do well; but towards the ſummit they never ſucceed.

I am, Sir, your moſt obedient ſervant,

M. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Notices as to Lucern.

SIR,

IN a piece of garden ground at Lauriefton, near Edinburgh, I ſowed a plat with lucern and red clover ſeeds, in alternate drills, in the beginning of May 1807. Having no corn crop to keep them down, the plants, both of lucern and clover, being a good crop, flowered, and were cut down that ſeaſon.

I had heard that lucern was ſooner ready for cutting than any other green crop for cattle; and I believe it is ſo; for, on 23d May 1808, my drills of lucern were fit for cutting, the plants being 18 inches long, while the plants of red clover were not ſix inches in length.

At preſent, (16th April 1809), the new ſhoots of lucern are in height about ſix inches, while thoſe of red clover do not exceed one inch.

It has been alſo ſtated, that lucern, if cut as ſoon as it riſes to the height of 12 or 18 inches, may afford four or five crops in the ſeaſon. This, I believe, may be alſo true; but I have not yet had an opportunity of trying it properly, having cut it along with the clover laſt year. They were mowed in the beginning of July, when the lucern was three feet long, and ſcarcely arrived at bloſſom; and the red clo[illegible] neſs in the [illegible] order.

clover laſts in the ſoil, in this climate, only two or three years. But in this matter I found myſelf miſtaken; for the moſt uncommon ſeverity of the froſt of laſt winter has killed about a third of the lucern plants, ſo that it is impoſſible now that this crop of lucern can ever equal that of the red clover.

Although, no doubt, the froſt that killed my lucern plants was more ſevere than has been experienced for 69 years paſt in Scotland, the thermometer having been, on 22d January laſt, in ſome places as low as zero, by which moſt of the tender exotic plants, expoſed in the open air, have been killed, particularly thoſe of the Lauruſtinus, Ciſtus and Budlea; yet I am hardly inclined to truſt that a crop of lucern will hold good in this climate for a period of even ten years.

A crop of lucern is, however, well worth trying by the farmer in any ſmall paddock of deep loam, ſand or gravel, near his houſe, for ſoiling horſes, black cattle and hogs, or as an early food for ewes and lambs.

The ſeed may be had, of an excellent kind, from Dickſons & Co., Shakeſpeare's Square, Edinburgh.

A. S.

NOTE BY THE CONDUCTOR.

WHAT is ſtated in the above notices by our reſpectable and accurate correſpondent, ſupports, in the fullest manner, the opinions we have repeatedly delivered reſpecting the culture of lucern in this country. Whatever might be the merits of this variety of grass, when cultivated in the fertile plains of Italy, there cannot be a doubt entertained, but that red clover and rye-grass are much better calculated to yield a full crop of hay or green herbage to the Scottish farmer, than he can procure from lucern, or other exotic grasses. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts concerning the Establishment of an Academy at Inverness, for preserving the Gaelic Language and Pipe Music.

OBSERVING lately, in a northern provincial newspaper, a [illegible] instituting, at Inverness, a branch of the [illegible] of Scotland, and for requesting his Royal [illegible] Sussex, as Earl of Inverness, to patronize [illegible] the head of it, for the purposes *(inter alia)* [illegible] ultivating, by the establishment of an aca[illegible]ic Language and Pipe Music; I was led to

reflect on the benefits likely to accrue to the Highlands, by the eventual adoption of such a plan; and as the subject appears to me to be intimately connected with the general improvement and prosperity of that part of the country, I conceived that it was not inconsistent with the plan of your Magazine, now beginning to be read in the Highlands, to request the insertion of a few thoughts on the subject, from one who has reason to have the welfare and prosperity of the Highlands much at heart, by being possessed of a considerable property there, and which, he conceives, would be so far from being benefited by such a scheme, that he is persuaded its general improvement would be thereby much retarded.

Often, Sir, have I offered to my little Highland tenants the perusal of your useful publication, with the view of inducing them (by the precepts and details which it contains) to alter their present wretched system of husbandry, and as possessing their farms, for the most part, on leases for life, or for nineteen years, thereby to better their own condition; but, alas! their reply always has been, that they could neither read nor understand English; and that, consequently, they were in a manner cut off from all such means of improving themselves in the modern style of farming, and equally deprived of the satisfaction of reading the weekly newspaper I had caused to be sent among them, with the view of disseminating useful information.

It is well known, that many of the principal Highland proprietors of the present day, do not understand a word of the Gaelic language, nor show indeed any inclination to acquire it. The consequence is, that their tenants are deterred from representing to them personally the grievances they sometimes labour under, and rather quietly endure what they have to complain of, than expose themselves to the dreaded enmity of an interested bailif or ground-officer, the interpreter commonly made use of upon such occasions. And I presume, Sir, you are aware, that the disadvantage attending those who understand no language but Gaelic, cannot be less felt when they have occasion to attend a court of justice, where neither the Sheriff nor his substitute are acquainted with that language.

Manifold, in short, are the disadvantages resulting from this state of things in the Highlands, not to mention the effect it has of continuing a bigotted attachment to old habits and customs, the vestiges of feudal slavery, which serve only to impoverish the Highlanders, and to mark them as foreigners among their fellow subjects of the South.

In perusing the plan now in agitation, for *teaching the Highlanders their own language*, as detailed in the weekly paper above alluded

alluded to; and reflecting on our having already within the island two Highland Societies, one of which dispenses, annually, ample rewards for the cultivation and preservation of *Gaelic poetry, Gaelic piping, Gaelic dancing,* &c.; I was at a loss to conceive what call or occasion there could be for the institution of a *third;* or what charms pipe music possessed, to stir up greater courage in men, and make them fight better, than a well-assorted band of clarinets, French-horns, trumpets, and bassoons? But a recollection of the maxim, '*De gustibus,*' &c. put an end to my cogitations, and sufficiently reconciled that point; and this was confirmed by a scene which I witnessed last summer in the theatre at Edinburgh, at what is called the '*Annual Competition of Pipers,*' to which I was induced to accompany a Highland friend of mine and his two daughters, then residing at Edinburgh for their education. Although I could discover in the audience no great symptoms of delight at the musical part of the performance, matters took a very different turn, when, upon laying aside their pipes, the brawny competitors, decked in their genuine Highland costume, *set to* at a reel. The capers, flings, and whirling exertions of the dancers, was an *exhibition* that seemed highly entertaining to the spectators; and my friend's two daughters, whom I perceived enjoying many a hearty *titter* behind their fans, returned home from it with looks, I thought, of considerable edification.

But to conclude this epistle.—What I seriously hope to live yet to see, Sir, as a real well-wisher to the prosperity of the Highlands, is, the Gaelic numbered among the dead languages, and a better provision made, through the means of the Highland Society, for our Highland parochial schoolmasters, (teachers of the English language, arithmetic, writing, &c.) some of whom I have had opportunities of knowing to be at present but very miserably provided for. To the aphorism of one of our monarchs, 'Unus Deus, unus rex, unus grex,' it were to be wished we could add, 'una lingua.' I am Sir, &c.

ANGLICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on Mr Lawrie's Letter concerning Emigration from the Highlands of Scotland.

(Continued from p. 51, and concluded.)

SIR,

IN my former letter, I offered some remarks on a paper inserted in your Magazine for February 1808, mistakenly entitled, 'Hints as to the Means of preventing the Depopulation of the

'Highlands;' and mean, with your permiſſion, to reſume the ſub ject, and finiſh the remarks which occurred to me when peruſin that communication. The ſubject being of the firſt importanc to the public welfare and proſperity, I truſt you will indulge m with inveſtigating it at ſome length, though I ſhall not unnece ſarily treſpaſs upon the patience of your readers.

'I know,' continues Mr Laurie, 'it is ſuppoſed that the na tives will ſtill be retained in different parts of the Highlands i ſufficient numbers to ſupply hands as faſt as improvements in a griculture can take them up. Without diſputing altogether th foundation of this oblique policy, which admits ſo far the impr priety of its own plans, and implies alſo an admiſſion, that th progreſs of improvement muſt now be much retarded;—I woul juſt remark, that its advantages must not be overrated. Fro what we now know of the diſpoſitions of all ſorts of labourers, w muſt lay our account with this, that a competition amongſt em ployers for a ſupply of hands, not only will raiſe wages to th higheſt pitch, but will actually prevent coarſe and diſagreeabl work from being duly executed,' &c.

Now, Sir, in my humble opinion, no further diminution i the Highland population will take place than what the im proved system has no occasion for. It is not the proprie tors, but the principle of the system which retains the re mainder in the country. What they do not perform is n work of theirs.—But be that as it may, how can Mr Lawrie ca the policy oblique? He cries out lustily against the depopulatic of the country, and is at the same moment angry that a sing soul is left behind in the Highlands. If it be bad policy to com pel emigration at all, it must be infinitely worse to make it to tal. If that system be ruinous which forces all to emigrate, the can be no obliquity in that which is desirous of providing em ployment for those who remain in the country. It is wonderfu to me how this gentleman, who laments so feelingly the depopu lation, as he calls it, of the Highlands, should be sorry that a par tial stop is put to an evil of such magnitude. He must not hav attended to what he was saying, or is ignorant of the significatio of words. The warmest admirer of the new system never dream of turning every Highlander adrift; for he was aware that his plan could not be carried into execution without the assistance of a cer tain number of these very people. Our economical use of huma abour is one of the excellences of that system; and it was therefor a necessary effect of its introduction into the Highlands, that greater quantity of work should be performed with a smaller num ber of hands. It being no part of its views to remove the whol Highland population bodily, it cannot, in fairness, be argued, fro retaining a certain number, that it admits of a radical error i

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point of principle. If it had required a total depopulation at one time, and, when making the experiment, afterwards discovered the necessity of retaining a part, then it might truly be said that the system was erroneous in that essential particular. But as it does not pretend to carry the joke quite so far, but contends merely that fewer hands will do the business than heretofore, Mr Lawrie's censure upon this act of the Highland proprietors, is not just. As little can it be said that the system is bad; for if a smaller number of hands can do as much work now, as a greater number in former times, the country will be benefited at much less expense by the one than by the other. When the demand for hands is greater than the supply, wages will rise; and from the height it is easy to suppose them likely to reach, some part of the country work may lye over till the occurrence of a more favourable opportunity. Such an extraordinary demand, however, for hands, is not instantaneous, but comes by degrees, and in some measure keeps pace with the growing population of the country; which, if it does take place, Mr Lawrie may be assured, from the encouragement that would in that case be held out to multiply the usual proportion between the supply and the demand, would soon come into play. In the continent of North America, he has the pleasure of contemplating a country, (in which wages are higher than in any other part of the world), rising, with the utmost rapidity, to an unexampled height of wealth and prosperity. In that country, from its prodigious extent, coarse and disagreeable work lies over untouched; and no matter although the same thing should happen in this, if a great and increasing population get plenty to do of a more agreeable kind. Indeed it is melancholy to see human labour employed upon the last piece of work that remains for it to perform; for when that is done, the demand for labourers ceases, and wages of course fall. It is much more consolatory to be in possession of a large and inexhaustible fund, and at the same time, an industrious population; for, in that case, wages will be upon the increase, from the circumstance of labour not keeping pace with the demand.

This gentleman is very sanguine in his expectations of the Caledonian and Crinan canals being of the most essential service to the country at large, and turning out a most profitable concern to the adventurers engaged in it. I make not the smallest doubt that these canals, when completed, will do the country, in its line and neighbourhood, as much good as in its present state it is capable of receiving; but I am equally certain, that the speculators never will draw the interest of the money sunk in these great undertakings. The navigation round the north of Scotland and Mull of Cantyre, are so very dangerous, particularly in the win-

ter, as to deter vessels from making the voyage, and of course throw a great impediment in the way of water communication between the north-east and north-west parts of Scotland. This difficulty, to be sure, is partly removed, by the opening of these two canals; but I should think that the Great Canal, which joins the Forth and Clyde must, for a long time to come, render this additional water communication almost unnecessary in regard to large vessels;—and the Northern Canals are by much upon too large a scale for the mere purposes of inland navigation. I by no means, however, condemn the making of these canals, whose only fault seems to be that of coming into the world too early; but merely to moderate Mr Lawrie's expectations as to an early realization of those golden dreams in which he has been pleased to indulge himself.

'These operations (says he) have effected one very important object; they have exhibited the character of the Highlander as a man of sheer industry; and they have furnished sufficient proofs, that he is neither necessarily lazy, nor unable to suit himself to the circumstances that his lot prescribes. The landlords may now be satisfied, that if they had frankly given him what the Irish landholders gave their mutinous vassals, a favourable and long lease of a farm of small extent, he would long since have introduced into his little possession the various improvements that he could pick up in the course of his peregrinations, in so far as they suited his own farm, and have levied, by his industry in other quarters, the means of effecting his improvements, and, in all probability, have been able to make such offers to the landlord for the lease of other property as would have exceeded his competitors.'

I believe no person ever asserted the Highlander, or indeed any other human being, to be naturally lazy. But we know very well what he may come to be in process of time, from the influence of habit, and what he must be all at once from necessity. Upon applying this test to the inhabitants of the Highlands, we find their habits, from the earliest dawn of infancy, hostile in the extreme to industry; and, being without an object to rouse them to activity, they pass their lives in a state of hopeless indolence. Were, however, these habits reformed, and encouragement held out to the industrious disposed, no doubt a great and important alteration in their peculiar character would take place. But until the moment of these events coming into operation, it is silly to expect from these people industrious habits. Industry, it may be depended upon, is always in proportion to the amount of encouragement, and indolence to the reverse of it. If a favourable and long lease of a small farm is to have such magical effects upon the moral and political state of the Highlander, how comes it that the Irish, in possession of this advantage, are still as savage and rude as in ancient times?

mes? It is but natural to ſuppoſe, that the ſame cauſe, although perating upon different people, would have the ſame effect. It ight have occurred, therefore, to Mr Laurie, to ſhow how the aſe, which has failed in producing a favourable change upon the iſh, was to do the Highlander ſo much ſervice. But I apprehend at, independent of the argument againſt the Highlander, ariſing om the ſituation of the preſent Iriſh, it is impoſſible that a long aſe can be of any uſe to him, without a previous change in his haracter and habits. If he enters upon a ninety-nine years leaſe, ith all the indolence and want of activity for which he is at preent ſo remarkable, he or his heirs would leave it, at the expiry of at long period, as little improved, and the country as little benefited by his exertions, as at the beginning. No doubt a leaſe holds ut encouragement to a farmer; but unleſs he has the ambition of ettering his condition, that circumſtance alone will not have all he good effects that might naturally be expected from it. Security f poſſeſſion and induſtrious habits muſt go hand in hand, before he full effect can be produced. If my ſtatement be correct, then, neceſſarily follows, that the Highlander would not introduce into is ſmall poſſeſſion thoſe improvements that he may have picked p in the courſe of his wanderings. But, even if he conducted imſelf with as much propriety as his little eſtabliſhment would dmit of, ſtill he would be incapable, from the ſmallneſs of his wn practice, to gather improvement in the more diſtant parts of he country. This gentleman ought to have remembered, that ravelling for the ſake of agricultural improvement never has been he failing of ſmall farmers; and that this thirſt for knowledge has egun only of late years to make its appearance among the more pulent and enlightened of that claſs. What does Mr Lawrie ean by theſe ſmall people levying by their induſtry in other quarers the means of effecting theſe improvements? If he propoſes hat they ſhould leave their farms, and lend to other parts of the ountry that induſtry which they ought to have beſtowed upon heir own land, in that caſe their poſſeſſions never can in the ſmalleſt degree be improved. It is impoſſible for a man to ſerve both God and Mammon—it is totally out of his power, at the ſame moment, to plough both his own field and that of his neighbour. But, uppoſing that the Highlander would have become as induſtrious as his ſmall farm could poſſibly make him, and that he would have ntroduced into it all the improvements he may have collected in ther places, ſtill his ability, ariſing from theſe and all other ources of wealth, never would be equal to the means of a farmer rom Berwickſhire or Eaſt Lothian. If a ſmall farm was to enable im to undertake a certain thing, ſurely a large one would put it n his power to attempt much more. The rule of three in arithmetic will eaſily ſettle this point.

'If

'If it is intended (continues he) that the Highlanders ſhould be preſerved for the uſe of their country, ſomething much more effectual than any thing heretofore attempted, muſt be done. We know their character and their circumſtances; we alſo know their peculiar value, as theſe are connected together. Let us ſee whether we can preſerve theſe advantages, and improve them by a plan ſuitable both to their character and circumſtances. A deſire for a kind of perſonal independence; an ambition for a certain degree of reſpect and conſequence, ſimple and natural, yet ſteady and becoming their ſphere; attached not only to themſelves individually, and to their families, but to their country, their ſituation, and connexions—theſe are feelings which predominate in the character of the Highlander. Although fond of acquiring money—laborious, patient, and perſevering in induſtry—and more capable of ſubmitting to perſonal privations than any other man, his operations are deſultory: he is averſe to that reſtraint which implies a total ſurrender of his faculties to the will of another; and he is apt to make more uſe of this freedom than is conſiſtent with the ordinary routine of labour. In fine, from a careful examination of the character, circumſtances, and habits of the Highlander, I am ſatisfied that his proper ſphere is either in that of agriculture, or in ſome certain kind of work connected with that, or with domeſtic induſtry.'

The work of depopulation, or, as I have ſaid, of emigration, is nearly over; or, in the language of Shakespeare, 'Othello's occupation's gone.' It is therefore much to be regretted, that Mr Lawrie has been ſo tardy in promulgating to the world his ſovereign ſpecific. Quacks are in general ready enough, as the poor patients pretty well know, with their pills and noſtrums. We in the Lowlands are ſufficiently informed, from hearſay and ocular demonſtration, as to the character and circumſtances of theſe people. It would be uncharitable to deny ſome valuable ingredients in their character; but, good God! is there any thing in their peculiar circuſtances an object of envy? Is not their moral and political ſtate vile and degraded to a degree in the ſcale of human nature? However valuable, therefore, theſe poor people may be in reſpect to character, the circumſtances in which they happen to be placed throw them into the ſhade. Some of the traits of their character I do not very well comprehend; and thoſe that I do comprehend, do not give me a very high idea either of their induſtry or of their underſtanding. Individual freedom and uſeful induſtry are perfectly compatible in the ſame individual; but the independence of the Highlanders, like the ſheep of their mountains, will make but a ſorry appearance at the tail of the plough, or in the flat of a ſpinninghouſe. Their pride is proverbial, and decidedly hoſtile to all ſort of induſtrious employment. What reſpect

can

can poſſibly be paid to the herd of a few ſtarved black cattle? or, of what conſequence in the ſcale of ſociety is the ſmall farmer in the iſland of Skye? And yet theſe people will arrogate to themſelves both the one and the other. The Highlander, no doubt, is capable of ſubmitting to much perſonal privation, becauſe his life is but a ſucceſſion of want, from the cradle to the grave; but Mr Lawrie may be aſſured, that if his operations be deſultory, and if he be averſe to the ordinary routine of labour, he will, notwithſtanding of the above qualification, make neither a good huſbandman nor manufacturer. I do not pretend to ſay for what peculiar line of buſineſs he may, *par excellence*, be qualified; but I think it pretty evident, from character, circumſtances, and habit, that he is by no means qualified to diſcharge the duties of the enlightened ſort of farmer, whom I wiſh to ſee eſtabliſhed in the Highlands. If Mr Lawrie had condeſcended upon the particular kind of work connected with agriculture, for which he apprehends the native to be peculiarly qualified, I would have been the better able to judge how far he was well founded. But, perhaps, he had not at that time made up his mind ſo ſufficiently upon the ſubject, as to ſpeak with deciſion upon a queſtion of ſuch importance. I am alſo very much at a loſs to know what he means to inſinuate by domeſtic induſtry. He ſurely does not mean to allude to the great woollen manufactures, ſuch as thoſe of Mr Fraſer, which he afterwards mentions with ſo much complacency. If he means the knitting of ſtockings by the hand, I agree with him that no people are better qualified for that humble yet neceſſary ſpecies of domeſtic manufacture.

Although Mr Lawrie apprehends agriculture to be the proper field for the induſtry of the Highlander, yet he does not give himſelf the trouble of eſtabliſhing the probability, or the means, by which his theory may be reduced to practice. His mind is fired at the contemplation of Mr Fraſer's woollen manufactory at Inverneſs; and foreſees, in that and other ſimilar eſtabliſhments, the rudiments of a manufacture that is, one day or other, to rival its brethren in the South. As he apprehends that the change which is taking place in regard to the agricultural population is to bring that country to an untimely end, I ſhould have liked to have been favoured with a ſight of the arguments upon which he founds the ſuperiority of the aboriginal inhabitants over their more ſouthern neighbours. This point being one of much difference of opinion, it might have been at leaſt decent to have entered a little into the detail of thoſe reaſons which have led him to form the particular ſentiments he ſeems to entertain of the matter.

'I am thus ſanguine (ſays he) with regard to the ſucceſs of domeſtic woollen manufactures in the Highlands, becauſe the advantages

tages which the Inverneſs ſhire manufacturer poſſeſſes are of the moſt radical kind. Such induſtry may be ſaid to be that of all others which is peculiarly adapted to the Highlander. It infers a kind of independence, while it habituates to very ſevere induſtry and application. It favours his deſire of acquiring wealth by economy and parſimony; and it leaves a ſcope for deſultory relaxation, for contrivance, and for a diſplay of conſequence and ability;—and as a Highland family can live much more frugally than any other; ſo they can bring their induſtry to the market on lower terms than any other, &c. But the advantage, which, of all others, appears to me the moſt valuable, is this. In Scotland, particularly in the north of it, we are accuſtomed to make all our fabrics of a quality really and truly equal to what we vouch them to be; whereas the Engliſh, in their mutual competition for cheapneſs and for fineneſs, have fallen into the habit of deteriorating the intrinſic value of their ſtuffs. It is, perhaps, chiefly on account of this, that the woollen-cloth manufacturers of Galaſhiels, and the woollen-ſtocking manufacturers of Hawick, have become ſo flouriſhing amidſt ſeveral diſadvantages.'

Mr Lawrie is ſanguine as to the ultimate proſperity of woollen manufactures in the Highlands, not becauſe the whole of that country itſelf is favourable to that particular line of buſineſs, but from the circumſtance of Inverneſsſhire poſſeſſing advantages of a radical kind. This fact, in regard to that county, may be true, and therefore it may be inferred that this ſpecies of manufacture will thrive in that diſtrict; but that affords no probable reaſon for its univerſal proſperity over the whole face of the north of Scotland. I ſhrewdly ſuſpect that Mr Lawrie is a native of that country, and, like many other of his countrymen, thinks there is no other country in the world equal to the one in which they firſt drew breath. It may be true, that the induſtry requiſite in the domeſtic woollen manufactures in the Highlands is peculiarly adapted to the natives; but I can aſſure that gentleman, that the produce of this ſpecies of induſtry cannot poſſibly come into market upon as eaſy, or upon ſo cheap terms, as the manufactured goods of the clothing diſtricts of the north and weſt of England. That ſort of induſtry may knit the ſtockings that are deſtined to cover the naked legs of the natives, or even the plaid that is to ſhelter them from the blaſts of the ſtorm; but they never can be conducted upon a great ſcale. I preſume Mr Lawrie has not had the curioſity to examine the woollen and cotton manufactures in the South, or he muſt have been impreſſed with their prodigious ſuperiority in point of production, over the puny and iſolated exertions of the Highlanders in a ſimilar line. The independence that he alludes to, is totally incompatible with induſtry and application; for if a man

be permitted to riſe from his ſeat juſt when he pl:aſes, he will ound oftener with the rod or gun in his hand than he ought :. It is quite ridiculous to talk of a Highlander being partial he acquiſition of wealth by means of economy and parſimo- for that road to wealth is always compulſory, and can in no be a matter of choice. Would the Highlander prefer ſix- :e a day to a ſhilling, although, in his preference to the former, vould find a greater field for the accumulation of money by imony. If he be partial to this mode of acquiring wealth, it :cauſe he has never yet taſted of the high wages of the manu- urer in the South. I can eaſily believe that a Highland family live much more frugally than any other, becauſe they have accuſtomed to ſmall enjoyments. Still it does not neceſſarily fol- from that ſingle circumſtance, that they can bring the produce eir induſtry to market upon lower terms than other people. If Lawrie alludes merely to the labour of the hands, he may be t; but, in the combination of human with mechanical labour, totally out of the queſtion. The labour of the individual is, ſuppoſition of this kind, of ſo little importance in compariſon he effect produced by machinery, that though the Highlander eat leſs, his work is not ſo cheap as that of the other who lows a good deal more than he does of ſolids and liquids. Engliſh are ſaid, from a competition for cheapneſs and fine- , to have fallen into the habit of deteriorating their ſtuffs, but the Scotch fabrics are equal to what they are repreſented to Hence he foretells the riſe of the one, and the fall of the r. But does not this gentleman perceive, that among a rude ple, wearing apparel, like the wearers, is rude and coarſe;— that as the people become refined, the fabric becomes finer finer? It is becauſe the Engliſh are a more refined and rious people than the inhabitants of Inverneſsſhire, that their llen goods are thinner and finer. It is becauſe they will wear coarſe goods, and not from any decay in the excellence e manufacture, that their cloth is fine, and of a thin texture. nay believe me, that the preſent is the coarſeſt in the hiſtory nverneſsſhire goods, and that they will learn to manufacture thinner and cheaper every day. It is not upon this account the Galaſhiel and Hawick manufactures have been ſo much the increaſe of late years. Every country requires, for home mption, a certain annual quantity of coarſe goods; and as part of Scotland is a great ſheep diſtrict, the eſtabliſhment of was very natural, and their ſucceſs moſt likely in that quar- Had they been ſo unwiſe as to have attempted, at the outſet, manufacture of fine cloths, which require a great knowledge and capital than they were poſſeſſed of, they would in all probability

probability have failed of ſucceſs. By and by, however, the Galaſhiel and Hawick lads will follow the example of their more ſouthern neighbours, and manufacture a finer kind of goods than they do at preſent. The progreſs from rudeneſs to refinement in woollen manufactures, is as certain and unavoidable as in morals.

Let us now attend to the mode in which Mr Lawrie would apply the woollen manufactures to the improvement of the Highlands, and to the melioration of the actual circumſtances of the natives. 'My propoſal (ſays he) is, that each landlord ſhall begin with remedying the injury that he does to the Highlander, in expelling him from his farm, by granting to him, in perpetuity, a piece of ground ſufficient to raiſe all the vegetables that his family and a cow may require; not exceeding, however, an acre; and alſo a few acres of moor land, or ſome ſuch ground that is barely improveable, and not very diſtant, nor out of the way; upon condition of receiving from him the amount of its rental, by way of feuduty, or perpetual ground-annual; but perfectly free of every other burden whatever, except thoſe which the Government or community may afterwards lay upon it,' &c.

One would imagine, that, in applying the woollen manufactures to the improvement of the Highlands and its inhabitants, this application would refer, directly and immediately, to the manufactures themſelves. In this point of view, he might have recommended the bringing of manufacturers from Yorkſhire, and the introduction of the improved ſtate of the trade as carried on in that county, in ſo far as applicable to the preſent condition of the Highlands. Something of this kind would have been the obvious and immediate way of making this ſpecies of manufacture ſubſervient to the improvement of that part of the country. This, however, is no part of Mr Lawrie's plan. He expects to raiſe the Highlands to a high pitch of improvement, not by means of the woollen manufacture, with which he originally ſtarted, but merely by granting the inhabitants a feu of a ſmall bit of ground for the accommodation of their families. An appropriation of this kind may produce, no doubt, a ſufficiency of kail and potatoes for domeſtic uſe; which is all very well: But I cannot ſee how the woollen manufactures are to be at all improved by this accommodation of the individual. It might, on the contrary, be argued, that this mixture of employments in the ſame perſon, will prevent him from attaining to excellence in either; and that, in the preſent caſe, he will be neither a good farmer nor a good manufacturer. Upon looking at Yorkſhire and the weſt of England, the ſeats of the woollen manufactures, the mode recommended by this gentleman has not been adopted; and it would be prudent for the Highland manufacturer, in the infancy of his trade,

trade, ſtrictly to follow their example. By and by, perhaps, he may with ſafety deviate from the beaten paths.

'The improvement of a ſpot' (continues he) 'that was now abſolutely his own, would ſtimulate the induſtry of the Highlander and his family. They would be inceſſantly employed either upon the property itſelf, or in labouring, in order to obtain means for bringing this ſpot to its higheſt uſe. And as they would by their induſtry, and the aſſiſtance of friends, ſoon be able to rear a houſe on their own property, the landlord's rent would become ſecured without further trouble.' I make not the ſmalleſt doubt but the abſolute poſſeſſion of a piece of ground would ſtimulate the indolence even of a Highlander. But if he has no other means of improvement than what is afforded by his own induſtry and this barren waſte, I am afraid he would make very little progreſs. If the natives are to be wholly employed in the improvement of this perpetuity, they muſt be previouſly in poſſeſſion of ſome capital, upon which they may ſubſiſt until a certain degree of melioration has taken place. But we all know, that theſe poor people are totally deſtitute of this capital, and of courſe cannot begin this ſuppoſed ſeries of improvements. To labour for others, is not mending matters a whit; for the wages of that induſtry muſt neceſſarily be ſpent upon their ſubſiſtence as faſt as they get it. In theſe circumſtances, how can they be ſuppoſed capable of building a houſe upon the ground they have acquired in perpetuity out of their own means? Or how can their friends, in no better circumſtances, be of the ſmalleſt aſſiſtance to them, in this or in any other reſpect?

I agree perfectly with Mr Lawtie, that the woollen manufacture is the moſt likely branch of trade to thrive in the Highlands. But I differ with him moſt eſſentially as to the mode of introducing it into the country. I am decidedly averſe, at this early period, to the eſtabliſhment of large factories, ſuch as thoſe of Mr Fraſer; becauſe they have to contend with the immenſe capitals and ſuperior knowledge of our Southern neighbours. I feel a like repugnance, and for the ſame reaſon, to the manufacture of cloth for foreign uſe; and I am decidedly of opinion, that the natives ſhould, for ſome time at leaſt, attempt the extenſion and improvement of this kind of manufacture upon the ſmall ſcale that exiſts at preſent; and that the goods ſhould be for home conſumption only. This appears to be all that the means of the country are yet equal to; and if more be attempted, a thouſand to one but a failure will be the conſequence. By and by, however, when theſe ſmall eſtabliſhments have taken deeper root, and greater capital and knowledge have been accumulated, the finer and dearer goods may then be manufactured with every proſpect of ſucceſs.

There

There is a great deal of after diſcuſſion in this paper, upon ſubjects nowiſe connected with the means of preventing the depopulation of the Highlands. Upon topics not immediately allied to the principal ſtory, I am unwilling to occupy that room in your Magazine which can be ſo much better employed. I beg leave merely to ſay a few words upon a ſubject that has been often diſcuſſed, but which ſo very few are either willing or able to underſtand.

The recent emigration from the Highlands, is a ſtep in the political progreſs of mankind; a link in the great chain that connects together the two extremes of civilization and barbariſm. The revolution that had already taken place in the ſouth of Scotland, travelled northward, and paved the way for a ſimilar change in that extenſive part of the iſland lying on the other ſide of the Forth. This change in the political ſyſtem reſembles the paroxyſm of diſeaſe in the human body, when it is about to paſs into a ſtate of good health. The conſequences that muſt neceſſarily follow, cannot fail to prove injurious to ſome part of the inhabitants; but, that it muſt in the end be ſalutary to the nation, upon the whole, cannot be doubted. It is ridiculous to blame the Highland proprietors, for falling in with this alteration of circumſtances in the ſtate of ſociety; for had they reſiſted its further progreſs, they muſt have ſtarved. I muſt, however, blame them exceedingly for not anticipating the changes which ſuch a revolution would neceſſarily occaſion in the condition of their vaſſals; for in that caſe it would have been more gradual, and of courſe attended with fewer of thoſe violent effects with which it has been unfortunately accompanied. But it ſeems to be the lot of all who have the means in their power, of ſmoothing the tranſition of one ſtate of things into another; never to ſee the neceſſity of the alteration, until it be too late to take meaſures for leſſening the evil conſequences which more or leſs attend every exertion of the human mind towards a ſtate of perfection. Had the Highland proprietors foreſeen the emigration of their dependants that muſt neceſſarily reſult from agricultural improvement, the change in the ſtate of ſociety would have been gradual, and on that account they would have had leiſure to prepare the minds and habits of the people. I would not exactly ſay that no emigration at all would have taken place; but am confident that it would not have been nearly ſo extenſive or melancholy in its effects. Theſe gentlemen, however, being unaccuſtomed to the contemplation of the natural hiſtory of mankind, did not perceive the great revolution that was faſt approaching, until it burſt like thunder over their heads. They were compelled, of courſe, to go along with the ſtream, and to be the cauſe of a conſiderable emigration of their follow-

fellow-countrymen to the continent of North America. In the midſt of the unpleaſant reflections that muſt riſe in their minds upon ſuch a retroſpect, they will have the ſatisfaction of thinking, that theſe poor people are laying the foundation of happineſs and independence to future generations; and that they contribute, by their removal, to a great change for the better in the agricultural ſtate of the country.

As long as mankind or their rulers will persist in shutting their eyes against the revolutions which necessarily take place in the progress of society, those changes cannot be accomplished without some attendant circumstances of regret. A great good can seldom be performed without a partial evil: the whole cannot be benefited but at the expense of a part. Although, however, we must for ever lament the fate of those who suffer by a change of this kind, we ought not to forget, that a much greater number will be essentially benefited. Does not a partial amputation from the human frame take place every day, for the sake of the preservation of vitality, not only without blame, but with approbation? For the same reason, a partial emigration from the Highlands is contemplated with satisfaction, as the only means of improving that part of the empire. It would not be more ridiculous for the operator to delay the amputation of a limb, to the certain death of the patient, merely from the fear of giving pain, than it would be in a legislator to put a stop to emigration from the Highlands, to the certain prevention of all improvement in the North, simply on account of its being injurious to a few.

But, really, I am not aware of the great inhumanity of this involuntary emigration, in a comprehensive point of view. I am sensible enough of the unpleasant sensations which persons must experience when leaving their native land, poor and wretched as it may be, for ever, without a prospect of return. But there are circumstances in the particular condition of the Highlanders, that must take their case a good deal out of the general rule, and greatly diminish the pain they would otherwise feel at abandoning the country which gave them birth. God knows, that the condition of the greater part of these people in their own country was but miserable enough; and that, independently of the *amor patriæ* which is supposed to burn so strongly in their bosoms, they had nothing to regret in the change of the place of their abode. Under a sky cold and humid, with a soil rugged and barren in the extreme, and incapable, from their prejudices and habits, ever to rise in their native country above the level of a day-labourer, there is nothing consolatory in the future prospects of these poor people, and of the generations that are to

follow. By one great effort, by one leap across the Atlantic, they escape from a prison in which all their moral and physical qualities lye immured. There is a difficulty, I know, in forgetting that spot where we first drew breath; but, with the generation who makes the sacrifice, all painful remembrances are buried in one common grave. I am, yours, &c.

Glasgow. A CONSTANT READER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Farming Society of Ireland, No.* 60, *Summer Hill.*

BY directions of the Committee of this Society, I transmit you the Adjudications and Report of our last Spring Show of Fat Cattle, &c. in order that the same may be inserted in your next Number of the Farmer's Magazine. I also send the Report of the Show of Broad Cloth.

The death of our secretary, John Hamilton, Esq. has prevented the sending of these papers at an earlier period. I am, &c.

WM. DIX, *Act. Secr.*

[Impressed with a full sense of the attention shown us by the Farming Society of Ireland, in thus transmitting an account of their proceedings at the Spring Show, we have inserted copious extracts; it being out of our power to present the account in its original state.]

FARMING SOCIETY OF IRELAND.

'Having frequently given our tribute of applause to this enlightened and patriotic Society, for their exertions in improving the agriculture and live stock of Ireland, we have now to say, that the success of those exertions was never more apparent than at the late *Spring Show*, when the improvement in each species of live stock was strikingly evidenced to the most inexperienced spectator. Some idea may be formed of the interest which the public take in these exhibitions, from the circumstance of 3188 persons having paid for admission to the Show.

'The Society had to lament the loss of their late excellent Secretary, Mr HAMILTON, who had died only two days before the Show. The business, however, was conducted with the greatest regularity and judgment by the gentleman who executed the duties of that office during Mr Hamilton's indisposition. All the stock were entered on Monday the 6th, and certificates given in of their ages, and the mode and time of feeding. Very early on Tuesday morning, they were placed in their respective classes, the NEAT CATTLE having all been previously weighed alive on a machine

machine erected for that purpose. There were, in all, *twenty-nine* fat oxen, cows and heifers, most of them admirable specimens of their respective breeds, the produce of the cattle which were imported into Ireland in consequence of the premiums offered by this Society in the first years of its institution, few of which could have been brought forward in a fat state sooner. *Long Horns, Herefords, North Devons, Teeswater* or *Durham*, and *Holderness* cattle, contended for superiority.

'There were not so many competitors for the premiums offered for SHEEP as might have been expected: only five pens of *New Leicester*, and two of *Southdown* wethers were shown. We have always approved of a *moderate mixture* of the *New Leicester* blood with the coarse, unthrifty, neglected sheep which formerly occupied the rich pastures of this country; but cannot, however, conceal our decided objection to the *over-fat mutton* which is frequently exposed to sale in our markets, and which we think both wasteful and disgusting. The destruction of *Merino* sheep by the ravages of the present war in Spain, and the extravagant price of clothing-wool in consequence thereof, should make the *fleece* a principal object of attention. The Society have been engaged, for two or three years, in improving the mountain sheep of the county of Wicklow, by supplying the breeders with *Southdown* rams; and so great have been the advantages of even a single cross, that rams of that breed are now sought with the greatest avidity; and there is reason to believe, that there will not, in two years more, be a single *native* ram in that county. Lord MEATH exhibited a pen of hoggets, got upon native Wicklow ewes by one of the Southdown tups presented to the Society by the DUKE of BEDFORD, which evinced, in the strongest manner, the utility of such a cross. Mr SYMES also produced a native *Wicklow* wether, which had been fed exactly in the same manner as his pen of Southdowns. The great inferiority of this sheep to Lord MEATH's hoggets, was obvious to every one who examined them. So far the Society have done well; but it is hoped they will not stop there. They are called upon to establish the *Merino* breed of sheep in this country, and never to cease, till they combine in the same animal the most valuable fleece, the best formed carcass, and the highest flavoured mutton. In Spain, the Merino sheep is merely a vehicle for wool; but, in Ireland, it is hoped, by the experience, skill and ingenuity of the members of the Farming Society, aided by a temperate climate and a dry calcareous soil, producing the sweetest herbage throughout the greatest part of the year, the Merino breed will be brought to a degree of perfection unknown in any other country.

'The SWINE were superior to those which have been exhibit-

ed at any of the Society's former Shows. The improvement in this most useful species of animal, has been more rapid and general than in that of any other. The imported breed arrive at great weight in *two* years; whereas the old flat-sided pigs of this country could not formerly be fatted in less than *four*. The merchants in the provision trade invariably give a higher price per cwt. for the former than for the common Irish pig.

'On Friday the 10th, the PLOUGHING-MATCH took place at Collinstown, the seat of M. MILLS, Esq. Such a scene as this was truly interesting to every Irishman. Twelve ploughs started; and Mr Grierson was again declared the successful candidate. Having won the Society's *Gold Medal* for the best ploughing in the year 1803, and the *Cup* at four successive ploughing-matches, the Society presented *it* to him, "as a testimony of their high respect for his unremitted and successful exertions in agriculture." A *New Cup* is to be ploughed for next year, which, in like manner, will become the property of any person who obtains it *three times successively*.

'The company who attended the ploughing-match were most elegantly entertained with a cold collation by Mr MILLS.

'His Grace the DUKE of RICHMOND, patron of the Society, honoured the Show in Dublin and the Ploughing-match with his presence, and was pleased to express his unqualified approbation of both. The Society retired to dinner at Morrison's, in Dawson-Street, where Mr Grierson received their most cordial congratulations; and, in return, sung them his "*Reasons for ploughing*," an elegant parody (composed by himself) of Morris's "Reasons for drinking."

Adjudication of Premiums.

MONDAY, 6. FEBRUARY, 1809.

SEED CORN.

For the beſt barrel (sixteen ſtones) of imported *BARLEY, being a fair ſample of a parcel of at leaſt fifty barrels* - £. 10

Mr Edward Hay, *ſeedsman*, imported from Norfolk, weight per Wincheſter buſhel ſtraiked - - - - - *lb.* 50 *oz.* 7

Premium withheld, the parcel being deficient in quantity.

For the beſt barrel of BARLEY, grown in Ireland, being a fair ſample of a parcel of at leaſt ten barrels - - - - £. 10

Hartley Hudſon, Eſq. do. do. 53 12

Premium withheld, being deficient in merit for ſeed.

For the beſt barrel (fourteen ſtones) of imported *OATS, being a fair ſample of a parcel of at leaſt fifty barrels* - - - £. 10

Mr Edward Hay, *ſeedsman*, imported from Northumberland, *lb.* 43 *oz.* 10 per do. do. - -

Premium withheld, the parcel being deficient in quantity.

For the beſt barrel of OATS, grown in Ireland, being a fair ſample of a parcel of at leaſt ten barrels £. 10

Mr Jo. Gibbon, *farmer*, weight per Wincheſter buſhel - 45 1

Wm. Deey, Eſq. do. do. - 42 10

Geo. Grierſon, Eſq. do. do. 42 13½

Premium adjudged to Mr Jo. Gibbon.

TUESDAY,

TUESDAY, 7. MARCH, 1809.

NEAT CATTLE.

OXEN.

last

For the beſt fat OX, three years old £.10
Thos. Going, Eſq. *(long-horned.)*
Premium adjudged to Thomas Going, Eſq.
For the next ditto - - £.5
No claimant.
For the beſt fat OX, four years old £.10
For the next ditto - - £.5
1. T. Going, Eſq. *(long-horned)*
2. Jas. Critchly, Eſq. *(ditto)*
3. H. S. Lloyd, Eſq. *(ditto)*
Firſt Premium adjudged to Thomas Going, Eſq.
Second Premium adjudged to Jas. Critchly, Eſq.
For the beſt fat OX, five years old, £.10
For the next ditto - - £.5
1. Arthur Reynell, Eſq. a Minor, *(Hereford)*
2. Colonel La Touche, *(Holderneſs)*
3. Thomas Going, Eſq. *(long-horned)*
4. John Fetherſton, Eſq. *(ditto)*
5. Henry Lloyd, Eſq. *(ditto)*
Firſt Premium adjudged to Arthur Reynell, Eſq.
Second Premium adjudged to Colonel La Touche.
For the beſt fat OX, ſix years old, or upwards - - - - £.10
For the next ditto - - £.5
1. James Critchly, Eſq. *(long-horned)*
2. Sir Thomas G. Newcomen, Bart. *(Teeswater)*
3. Colonel King, *(long-horned)*
4. William Morris, Eſq. *(ditto)*
5. Lord Lorton, *(ditto)*
6. Sir John Browne, *(ditto)*
Firſt Premium adjudged to James Critchly, Eſq.
Second Premium adjudged to Sir T. G. Newcomen, Bart.
For the beſt of the Prize OXEN—the SILVER MEDAL.

	Claſs
1. Arthur Reynell, Eſq.	3.
2. James Critchly, Eſq.	4.
3. Sir T. G. Newcomen, Bart.	4.
4. Thomas Going, Eſq.	2.
5. Thomas Going, Eſq.	1.
6. Colonel La Touche	3.
7. James Critchly, Eſq.	2.

The MEDAL adjudged to Arthur Reynell, Eſq.

COWS or HEIFERS.

Claſs

6. *For the beſt fat COW or HEIFER, three years old* - - - £.10
James Watſon.
Premium withheld.
For the next ditto - - £.5
No claimant.
7. *For the beſt fat COW or HEIFER, four years old* - - - £.10
For the next ditto - - £.5
1. Morley Saunders, Eſq. *(long-horned)*
2. John Fetherſton, Eſq. *(ditto)*
Firſt Premium adjudged to M. Saunders, Eſq.
Second Premium adjudged to John Fetherſton, Eſq.
8. *For the beſt fat COW or HEIFER, five years old* - - - £.10
For the next ditto - - £.5
1. John Fetherſton, Eſq. *(long-horned)*
2. John Gerrard, Eſq. *(ditto)*
3. Arth. Reynell, Eſq. *(long-horned)*
4. Morley Saunders, Eſq.
Firſt Premium adjudged to John Fetherſton, Eſq.
Second Premium adjudged to John Gerrard, Eſq.
9. *For the beſt fat COW or HEIFER, ſix years old, or upwards* - £.10
For the next ditto - - £.5
1. Arth. Reynell, Eſq. *(Hereford)*
2. J. Fetherſton, Eſq. *(long-horned)*
3. C. P. Dwyne, Eſq. *(ditto)*
4. Sir T. G. Newcomen, Bart. *(Teeswater)*
5. Earl of Farnham, *(Devon)*
6. J. Gerrard, Eſq. *(long horned)*
7. G. L. Nugent, Eſq. *(ditto)*
Firſt Premium adjudged to Arth. Reynell, Eſq.
Second Premium adjudged to John Fetherſton, Eſq.
10. *For the beſt of the Prize COWS or HEIFERS*—the SILVER MEDAL.

	Claſs
1. Arth. Reynell, Eſq.	9.
2. John Fetherſton, Eſq.	9.
3. John Fetherſton, Eſq.	8.
4. John Gerrard, Eſq.	8.
5. Morley Saunders, Eſq.	7.
6. John Fetherſton, Eſq.	7.

The MEDAL adjudged to Arth. Reynell, Eſq.

SHEEP.

COMBING-WOOLED.

Class

11. *For the beſt pen of five fat* one ſhear *WETHERS* - - £.10
For the next ditto - - £.5
1. T. Going, Eſq. (*New Leiceſter*)
2. W. Fiſhborne, Eſq. (*ditto*)
3. J. P. Garnett, Eſq. (*ditto*)
4. B. Morris, Eſq. (*ditto*)
First Premium adjudged to Thos. Going, Eſq.
Second Premium adjudged to W. Fiſhborne, Eſq.

12. *For the beſt pen of five fat* two ſhear *WETHERS* - - £.10
T. Going, Eſq. (*New Leiceſter*)
Premium adjudged to Thomas Going, Eſq.
For the next ditto - - £.5
No claimant.

CLOTHING-WOOLED.

13. *For the beſt pen of five fat* two ſhear *WETHERS* - £.10
Owen Wynne, Eſq. (*South Down*)
Premium adjudged to Owen Wynne, Eſq.
For the next ditto - - £.5
No claimant.

14. *For the beſt pen of five fat* three ſhear *WETHERS* - - £.10
Reverend James Symes (*South Down*)
Premium adjudged to the Rev. James Symes.
For the next ditto - - £.5
No claimant.

15. *For the beſt WETHER, of any age or breed, whether ſelected from the pens, or exhibited alone*—The SILVER MEDAL and £.5.
The Medal and £.5 adjudged to Thomas Going, Eſq.

SWINE.

16. *For the beſt fat PIG, exceeding ſix months, but not exceeding one year old* £.5
For the next ditto - - £.3
No claimant.

17. *For the beſt fat PIG, not exceeding two years years old* - - £.5
For the next ditto - - £.3
1. James Pim, Eſq.
2. Thomas Going, Eſq.
3. Mrs Cameron.
4. Mrs Urbani.

Class

First Premium adjudged to Jas. Pim, Eſq.
Second Premium adjudged to Thomas Going, Eſq.

18. *For the beſt fat PIG, not exceeding three years old* - - - £.5
For the next ditto - - £.3
1. Brabazon Morris, Eſq.
2. James Pim, Eſq.
First Premium adjudged to Brabazon Morris, Eſq.
Second Premium adjudged to James Pim, Eſq.

19. *For the beſt of the prize SWINE*—The SILVER MEDAL.
1. James Pim, Eſq. Claſs 17.
2. Thomas Going, Eſq. 17.
3. Brabazon Morris, Eſq. 18.
4. James Pim, Eſq. 18.
Medal adjudged to Jas. Pim, Eſq.

PLOUGHING-MATCH,

Held at COLLINSTOWN, near Dublin, FRIDAY, 10. MARCH, 1809.

To the perſon who ſhall plough at leaſt five inches deep in the beſt manner—The CUP and £.15.

To the next ditto - - - £.5

Candidates.		*Ploughmen.*
J. Garnett, Eſq.	*Horſes.*	J. Trahy.
Sir R. Levinge.	*Bullocks.*	R. Reddy.
Lady Ponſonby.	*Horſes.*	M. Nowlan.
C. Clinch, Eſq.	*Ditto.*	J. Flanagan.
R. Verſchoyle, Eſq.	*Bullocks.*	O. Bardin.
Rev. Jas. Symes	*Ditto.*	J. Doyle.
T. Adamſon, Eſq.	*Horſes.*	J. Claffy.
J. Grange, Eſq.	*Ditto.*	J. M'Coy.
J. Garnett, Eſq.	*Heifers.*	P. Field.
G. Grierſon, Eſq.	*Horſes.*	W. Kippie.
Arth. Reynell, Eſq.	*Bullocks.*	J. Mooney.
Mich. Mills, Eſq.	*Horſes.*	Jas. Bell.

The Cup and £.15 adjudged to George Grierſon, Eſq.
The Second Premium adjudged to Michael Mills, Eſq.

To the beſt PLOUGHMAN - £.10
To the next beſt - - - £.5
First Premium adjudged to W. Kippie, Mr Grierſon's ploughman.
Second Premium adjudged to Jas. Bell, Mr Mills's ploughman.

To the beſt PLOUGHMAN, a native of Ireland - - - - £.5
Premium adjudged to Patrick Field, Mr Garnett's ploughman.

To

To the owner of the beſt pair of plough HORSES - - - £.10
Premium adjudged to George Grierſon, Eſq.

To the owner of the beſt pair of plough OXEN or HEIFERS - - £.10
Premium adjudged to Arthur Reynell, Eſq.

BROAD CLOTH.

The progreſſive improvement which has taken place in this article, muſt give pleaſure to every friend of Ireland; all the pieces that were exhibited having been very much ſuperior to thoſe produced laſt year. It is worthy of remark, that the firſt and ſecond cloths which obtained the premiums, have been manufactured entirely of South Down wool; and are equal in value to Engliſh ſuperfine, now ſelling at 45s. and 50s. per yard, and which the ſeller is enabled to afford to the public at 28s. and 30s. per yard. How much this excellent breed of ſheep merits encouragement in this country, both for the value of the fleece and carcaſs, will appear from the weights of the prize ſheep of that breed exhibited at the laſt ſhow.

	lib.	oz.
Mr Wynne's South Down two ſhear wether weighed alive	119	0
Fleece	4	14
	lib.	oz.
Blood	4	3
Head and Pluck	6	13
Entrails	10	3
Fat	11	8
Pelt and Feet	9	3
Carcaſs	75	12
	117	5

	lib.	oz.
Mr Symes's three ſhear wether weighed alive	166	0
Fleece	4	14
	lib.	oz.
Blood	6	2
Head and Pluck	9	0
Entrails	12	10
Fat	19	6
Pelt and Feet	9	14
Carcaſs	108	12
	165	12

The fleeces of theſe ſheep ſold from 3s. 10d. to 5s. 4d. per pound.

The Premiums for Broad Cloth and the adjudications were as follow.

For the fineſt and beſt end of broad cloth, not leſs than 20 yards, made entirely of wool the growth of Ireland - - £.20
For the ſecond beſt - - - £.10
For the third - - - £.5

1. Meſſrs Nicholas and John Hunt, (blue), of wool grown by the Marquis of Sligo and the Rev. James Symes.
2. Meſſrs Walter Burke & Sons, (ſcarlet), of wool grown by Owen Wynne and George Grierſon, Eſqs.
3. Mr Joſeph Ormsby, (corbeau), of wool grown by the Earl of Farnham and Sir Will. Homan, Bart.
4. William Parnell, Eſq. (blue), of wool grown by himſelf.
5. Mr Jeremiah Dwyer, (brown), of wool grown by Lord Aſhtown and Francis Trench, Eſq.

First Premium adjudged to Meſſ. Hunt.
Second Premium adjudged to Meſſrs W. Burke & Sons.
Third Premium adjudged to Mr James Ormsby.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Difficulties which attend the Improvement of Moss Land.

SIR, *East Lothian, Feb.* 8, 1809.

PERMIT me, through the channel of your uſeful Magazine, to congratulate the public on having reached this happy era of agricultural improvement. There has not, perhaps, at any one period in the annals of that art, been ſuch rapid, ſuch accelerated progreſs in improvement, as within theſe laſt ten years!

The aſtoniſhing riſe of the prices of agricultural produce; their unexpected ſteadineſs through that period, with the proſpect of new improvements ſtill opening to view; the ſingular patronage and protection of enlightened ſocieties and patriotic individuals;—all combine to render the art of agriculture reſpectable, and to attract the capital ſtock of the country, in a conſiderable degree, to promote its beſt and trueſt intereſts.

In this view of the matter, is it any wonder that reſpectable, learned men, have devoted their time and talents to reſearches which have an evident tendency to give freſh energy to practical farming? Yet after all their exertions; after all the abilities employed in agricultural purſuits, how much are we in the dark concerning *many important branches* on which their writings have only, as it were, caſt a few rays of light! But as rational theory will gradually lead to real improvement, I am ſatisfied it ought to meet with the moſt hearty encouragement from every patriot—from every friend to agriculture.

The ſubject of peat moſs has, for ſome time paſt, occupied my attention. According to ſome preſcriptions, I have been for two years paſt preparing moſs as a manure, by a proceſs which is ſaid to be capable of removing its ſterility. The reſults are not yet worth noticing, though appearances are favourable. I am puzzled, however, with contradictory ideas of its nature, properties, and effects, which, if they can be explained and rendered conſiſtent, would likely lead to the proper means of converting that dormant, inert ſubſtance, into an active manure.

I am well pleaſed with the attempts hitherto made to obviate difficulties in the way of improving moſs for various purpoſes; and thoſe who take the trouble of ſuch inveſtigations, deſerve the applauſe of every practical as well as ſpeculative farmer. Improvements muſt have a beginning, and they muſt advance by degrees; —one ſtep is preparatory to another. But I have looked into ſeveral authors who have treated of moſs; and after all they have written, I think there is ſtill much room to doubt, and much reaſon for ſcepticiſm as to their different theories. As a plain man, I beg leave to ſtate, through the medium of your uſeful Magazine, a few queries concerning that variety of ſoil, which I hope ſome of thoſe learned gentlemen may be able to ſolve.

It ſeems agreed that all peat moſs conſiſts of vegetable matter. According to Dr Rennie's theory, it is compoſed of ligneous and aquatic plants; but I have ſeen a heap of leaves of trees, &c. and of aquatic plants, lying together till they were actually rotten, and yet no moſs was formed. What is the reaſon of this? Why do theſe materials form moſs in certain circumſtances, and not in others? I have hitherto looked in vain for a ſatisfactory account of this ſubject.

2. I ſee

2. I obſerve ſome authors mention that the air of moſſes is healthful; whereas it is well known that fevers and agues abound in low lying carſe grounds and fens. How can this be accounted for? and what is the difference of the air of a moss and any other level?

3. When a heap of vegetables are huddled together till they are diſſolved into earth, that earth is always loose, friable, and porous; whereas a piece of peat moss, though formed of the ſame materials, is a tough substance, and seems to be impervious to water. How can this be accounted for? What is the cause why a peat, when newly dug, does not crumble down into earth? Why does it become a hard, tenacious, and insoluble substance?

4. When a heap of vegetables are *reduced to earth*, though the plants of which it is composed were inflammable (such as fir-wood), yet they lose their inflammability; whereas peat moss, though it has been immersed for many years in *water too*, retains all the inflammability it originally possessed. How can this be accounted for, on any of the theories that have yet been given us? What is the precise cause why wood and other vegetables do not lose their inflammability *entirely* in such circumstances?

5. It is said that moss does not exist in warm climates. What is the cause of this? Do not such climates contain similar vegetables? nay, may not similar vegetables be traced in their marshes? Why then is no moss formed, if that substance be of vegetable origin, as has been stated, and, I think, satisfactorily proved by Dr Rennie?

6. It is even suggested in the Essays he has already published, that moss is renovated when dug: if so, this may be of importance. But what are the means to be used to promote this process? or, on the contrary, how may it be effectually checked? If this could be ascertained, it might be of vast consequence to the public; for we might then have it in our power to check or promote the process of *peatification* at pleasure.

7. It is asserted that moss preserves vegetable and even animal substances from putrefaction. If this be the case, it must differ from vegetable mould, though formed of similar materials. But wherein does this difference consist? And what are the precise causes of this antiseptic quality?

8. In some low grounds I have seen moss which was quite rotten. It was loose and friable, like mould. I could not form it into peat at all; for it crumbled down in the air as soon as dug, and was not inflammable. I have even observed this stratum of rotten moss, surrounded by that which made excellent peat. How can this be accounted for? To what use may this rotten moss be turned? Wherein does it differ from *peat* moss; and what are the causes of this difference?

9. In

9. In digging some moss in my possession, I never could discover a single worm, or other reptile, excepting merely on the surface; whereas on all other soils, I have uniformly seen a multitude of insects and reptiles. What is the cause of this difference?

10. Of all soils, I find moss the most sterile at first. Till it be completely pulverized by frequent digging and manuring, I could never raise any kind of crop upon it. Now, if it consists entirely of vegetable matter, how can this be accounted for? What are the causes of this sterility, and what is the best remedy? Indeed, for my part, till the cause is ascertained, I despair of finding the remedy.

These, Sir, are a few, and *only a few* of my doubts and difficulties on the subject of moss. If you, or any of your numerous correspondents can solve them, I shall be happy. At all events, I would recommend them to your attention, as highly deserving the notice of those who write on the subject. I am, &c.

QUÆSITOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations on the Draught of a Lease, inserted in No. XXXIV.

(Continued from Vol. IX. page 471.)

SIR,

THE draught of the lease submitted to the consideration of your readers, having neither beginning, nor end, nor length of years, I shall take it for granted, that these were not omitted in the principal lease, and suppose the entry to have been at *Candlemas* 1805, as to the arable lands, and at *Whitsunday* thereafter as to the houses and grass grounds; and that the lease is to terminate, as to the *whole*, at Martinmas 1819; and that the terms of payment were at Candlemas and Lammas 1806, for the first year's rent. In the last year of the lease, the tenant is taken bound to pay, not only *two* half-years' rents, at the same term of Lammas 1819, but fifteen full years' rents will be exacted from him, although he will not have had more than fourteen years and a half's possession as to the houses and grass, and only fourteen years and three quarters' use of the arable lands. But as these allude to the particular case for which I supposed the lease to be framed, and do not appear in the copy under review, I shall forbear censure, and proceed to the mode of rotation proposed.

In the first views of agriculture, when theoretically contemplating the best management of land, we are apt to consider farming as a mere mechanical operation, and to suppose it possible to lay down one system suitable for a whole estate, a county, or a kingdom;

dom; but a little experience, the best of all schools, will teach us, that different soils generally met with in every farm, render it impracticable to frame common rules suitable for any extensive tract of ground; and although I feel firmly attached to a regular system in the culture of land, I am satisfied, that the restrictions proposed in the lease animadverted upon, will, without affording advantage to the proprietor, prove injurious to the tenant. I am ready to admit, that if we were to take it for granted, that the farms have been so laid out as to contain proper quantities of good soils, and that the tenant enters, upon this short lease, to ground already prepared for the rotation of crops proposed, that the tenant might consider the permission to have one half of the arable land in white crop, to the same purpose as if he had been allowed to exercise his best skill in it; but, in the present condition of the greater part of the land of estates in this kingdom, on which leases have lately commenced, it is not so much the inability of the farmer, as the excessive value paid for it, that has retarded improvement. At the commencement of a new lease, like a child who requires nursing in his infancy, land requires, for the first five or six years, a mode of management very different from that regular system which may be adopted afterwards. The estate for which the lease was drawn in its then condition, and the most of the tenants who entered to it, were alike incapable of the rules laid down; and now, at the commencement of the fourth year, they are much about where they began; whereas, had a progressive plan of improvement been enacted, matters might have been mended gradually.

Your Perthshire correspondent, Vol. IX. p. 440, has taken the start of me in one observation; and with him I agree, that though there can be nothing more absurd, yet there is nothing more common, than to find the same form of lease applied to the blowing sand, the out-field, the loamy clay, or richest infield ground,—the same to the farm of fifteen or twenty acres, as to the farm of a thousand acres; ridiculously reserving liberty to cut and carry off the trees from places where none are growing, —and right to the *fish*, though there is not so much as a spring of water on the farm. From the fees charged to the proprietor and tenant, the medium profit for drawing a lease, I am told, is about six or seven guineas. Now, for a less fee, a counsel will draw an elaborate paper applicable to the case for which the fee is paid. And what reason can be assigned for not expecting, for a fair fee, a lease containing a proper specification of the lands, &c.? Where the soil will admit of the rotation of crops recommended in this lease, the restrictions as to the last four years, on the part of the proprietor, appear to circumscribe the tenant's operations

rations so far, that in place of a half, he will not have it in his power to have a fourth part of the arable lands in white crop, in the two last years of his lease. It might have been expected, that a proper rotation having once been established upon the farm, there could be no cause to arrest the hand of industry, and suspend the system of a well-established rotation in the last four years of the lease. I admit that, in the continuation of such a rotation, the liberty of disposing of the last crop would remove from the incoming tenant the natural means of manure; therefore, as I would support the principle of those who are disposed to draw an impartial and advantageous line between master and tenant, I cannot approve of the liberty granted; nor can I figure a case where the master should consent to the white crop being removed from the farm, excepting, probably, in the near neighbourhood of a town where manure can be purchased. The only difficulty with me is, to fix the proper term at which the tenant should remove, and leave the crop at a fair valuation. It is a maxim which the wise have inculcated, that the proper season to dispose of an article, is when it is at its best; and as a corresponding principle, there is always the least risk when the article purchased is in its prime. Impressed with these ideas, I would recommend a trial of the old Lammas term, or rather about the 26th of August: at that season of the year, the crop could be valued by calculating the quantum per acre, (the price to be fixed by the valuators at Candlemas following); at that season, the stock and every thing on the farm would find a ready market. An entry at this season, too, gives the tenant the charge of reaping the crop he has to pay for,—and from that crop, an opportunity to form an opinion of the state of the land, and to lay down plans for the next one.

After laying down such a minute mode of management, the general obligation upon the tenant, 'to manage in a husbandman-like manner for the mutual advantage of all parties,' is a very puzzling one, and may admit of different constructions. I hope mine is not an illiberal one, when I understand by this clause, that the framer of it had in view such a season as the last, which may occasion some deviation in the next year's rotation; and that, by this general clause, the tenant will be warranted, in particular circumstances, to depart from the special rules, without subjecting himself in payment of either penal or pactional sums of money to the proprietor.

The clause obliging the tenant to pay the premium for insurance upon the houses, the property of the proprietor, and for which he has already been taken bound to pay at the rate of six *per cent.*, bears out the impression, that the framer of this lease has not been so sufficiently informed, as to be capable of avoiding the old custom

of

of impoſing unfavourable caſualties upon the tenant; for what is the difference of making a tenant pay ſuch a premium over and above his rent, and the old cuſtom, now abandoned, of making him furniſh hens, chickens, &c. or, in the option of the proprietor, to pay ſo much for them? Inſurance, in general, is certainly much to be recommended; and the proprietor who recommends it to his tenantry, ſhould not confine his recommendation to the narrow view of his own ſecurity only; in that view, the tenant is led to conſider it as an impoſition; whereas, if it was recommended upon the broad ſcale to cover the tenant's whole ſtock and crop, and the proprietor to allow from the rent the premium of the inſurance upon that amount, it would afford him the ſatisfaction of ſeeing the recommendation heartily embraced.

It is not ſo much the amount, as the nature of the exaction, which makes it be held as unreaſonable; and, certainly, to that cauſe only can be attributed the failure of the recommendation as to inſurance, on the eſtate in which it was introduced; a ſingle policy not having been applied for by any of the tenants.

To ſubject the tenant to the inconveniency of expoſing himſelf to the reſentment of ſportsmen of any deſcription, and to have his name uſed as their proſecutor, further than his own intereſt may require it, is a delegated power that ſhould have been reſerved to the proprietor or his gamekeeper. Under the exiſting game laws, it is impolitic for any gentleman to form his tenantry into a band for executing the game laws, or to degrade them with the ſervile office of aſſiſtants not only to his gamekeeper, but to his gamekeeper's *ſubſtitutes*.

From the local ſituation of a tenant, I would, however, have him encouraged to protect the property, and guard the intereſt of the proprietor in every pendicle connected with the ground. And, to encourage him ſufficiently as to trees, I have ſometimes thought, if proprietors were to contract with tenants for planting particular corners in the farm, under the eye of a ſkilful overſeer, and to allow them a certain proportion of the eſtimated value of the improvement at their removal, that the tenant, like a true huſbandman, would look forward to this return for his labour and attention; in which caſe, we might reaſonably expect a competition in the raiſing and preſerving of wood, equal to the preſent laudable exertion in the cultivators of ground for the beſt crops; the conſequence of which would be, that every farm, like a gentleman's domain, would ſoon have belts and clumps of plantings, both uſeful and ornamental. Hence, the complaint againſt large tracts of land under one owner, would in ſome meaſure be removed; for every tenant, like a little laird, would have, over and above his concern in the ground for crop, an intereſt in the ſpots upon his farm adapted for growing timber.

In

In offering theſe obſervations upon the leaſe under review, I have been actuated by no other motive than to provoke diſcuſſion for the good both of maſter and tenant; and ſhould I be ſo fortunate as to bring into the field thoſe of longer experience and greater abilities, I will feel ſufficiently repaid for any trouble taken; eſpecially as I may thereby have an opportunity of correcting my own ideas, from the better precepts of others.

I am, &c.

Dumfries, 9th February, 1809. X. S.

NOTE.

The Conductor intended, in this Number, to have offered ſome remarks upon the lease animadverted upon by X. S.; but is obliged to withhold them till another occaſion, in order to make room for the following form of a lease, which ſeems to have met with the approbation of the Edinburgh Agricultural Society. This form is undoubtedly less objectionable than the one drawn up for an eſtate in the South of Scotland; though the Conductor muſt lament that the Edinburgh Society ſhould be ſo much in error as to conſider fifteen years to be the proper time for the endurance of a lease of an arable farm. The clauſe allowing *aſſignment* or *subſetting*, merits approbation. Were this clauſe to be a cuſtomary one, the agriculture of the country would be immenſely benefited. N.

FOR THE FARMER'S MAGAZINE.

FORM of a Lease of an Arable Farm in Scotland, drawn up by Andrew Steele, Writer to the Signet, after diſcuſſing the Subject in the Edinburgh Agricultural Society, 27th March, 1809.

It is contracted and agreed between A., heritable proprietor of the lands after mentioned, on the one part, and B., preſently farmer in ———, and C. as cautioner and ſurety for him, to the effect after ſpecified, on the other part; That is to ſay, the ſaid A. has let, and in conſideration of the rent and other preſtations after mentioned, in tack and aſſedation lets to the ſaid B. and his heirs, whether of line, or by will and ſettlement, but always without diviſion, and alſo to the aſſignees and ſubtenants of the ſaid B., under the conditions and reſtrictions after mentioned,* *viz. 1mo,* The ſaid tenant

* Without allowance to aſſign or ſubſet, a tenant, who lays out his ſtock in improving his farm, hurts his own and his family's credit. It is a bar to improvement, and ultimately prejudicial to the landlord, as well as the tenant, to exclude aſſignees and ſubtenants.

tenant shall not be allowed to assign or subset this lease, till he has been at least three years in possession on the same. *2do*, He shall not be allowed to assign or subset the farm after mentioned, in portions, to be occupied by different persons (some necessary cottagers excepted), but as one farm, and for the whole remaining period of this lease, without the consent of the proprietor. † *3tio*, The proprietor shall be preferred, if he desires to have the possession, to any assignee or subtenant, on equal terms; and the tenant shall therefore be obliged to make him the first offer of the said lease; and for preventing collusion in this matter, the proprietor may insist that the terms of a renunciation to himself of the lease be adjusted by mutual arbiters: All and Whole the farm and lands of ————, and that for the space of fifteen years ‡ from and after the term of Martinmas next §, which is hereby declared to be the term of the said B.'s entry to the said farm, and from thenceforth to be peaceably occupied and possessed by the said B. and his foresaids, during the foresaid space. But declaring that the proprietor shall, agreeably to the laws and practice of Scotland, have full power to search for and work all mines and minerals in the said lands, and to make all necessary roads, and occupy ground for other necessary purposes thereanent; the proprietor always paying to the tenant surface damage, which in no case shall be less than double the rent of the ground so occupied; and otherwise, the same shall be ascertained by arbiters to be mutually chosen: And declaring also, that the proprietor shall

† Middlemen or Tacksmen, as they are called in different places, are debarred here, because they are considered as oppressive to poor tenants.

‡ The term of fifteen years of a lease seems to be fully a sufficient length of time for a farm that has been all cultivated, and requires no primary improvements by the tenant. If, indeed, it is a mountain farm, where no improvements are expected to be made by the tenant, six or seven years seem a sufficient length of time; but if, on the contrary, primary improvements, such as draining, enclosing, &c. are expected and covenanted to be made by the tenant, the lease may be properly granted for twenty, or even thirty years, a rise of rent being stipulated at the end of each ten years, which will be no more than justice to the landlord, while it will be a stimulus to the tenant to rouse him from apathy at the periods when the higher rents first become due.

§ Every term of entry has its special inconveniences to the parties concerned. Martinmas seems to have least to the incoming tenant in an arable farm, if the lease is guarded with a clause permitting the previous sowing of wheat, &c. and such other clauses as are expressed in this lease.

shall have power to hunt or fish on the said farm, not only himself, but to grant leave to others, they being liable in damages if they commit any waste, for which the proprietor may be obliged to grant redress to the tenant at the sight of mutual arbiters: And further declaring, that if any subdivision fences, or other fences shall be mutually agreed on, either now or during the period of this lease, the tenant shall be obliged to pay, in addition to his rent, and along therewith, at the rate of 6 *per cent. per annum* on the expense thereof, if disbursed by the landlord, or, if disbursed by the tenant, he shall receive, at the end of this lease, reimbursement to the extent of the full value of the said fences at the said period, to be ascertained by mutual arbiters: Further declaring, that the proprietor shall have liberty to plant and enclose, in a substantial manner, such portions of the said farm as he shall think proper, not exceeding acres, the manner of enclosing, as well as the deduction to be allowed for the rent of the ground so taken off, being always previously ascertained by mutual arbiters, the fences of the enclosure being kept in good repair by the proprietor and tenant jointly, and the tenant being liable in damages if he suffers cattle to destroy or injure the said plantations, or any other woods or plantations on the farm, and being obliged instantly to repair, at the mutual expense of the proprietor and tenant, every breach that shall occur in the fences of such plantations; which damages shall be due by the tenant for any destruction or injury, of whatever nature, of the woods or plantations on the farm, which he could possibly have prevented, and which shall be also ascertained by mutual arbiters: And it is further declared, that the tenant shall be obliged, at all times, to keep the houses, fences, gates and drains on the said farm in good order and repair at his own expense, except the fences of plantations, which shall be kept up at the mutual expense of the landlord and tenant; and if at any time the houses, fences, gates, or drains in the said farm, shall be found to be in disrepair, the proprietor may require the tenant to repair them within one month; and if any difference shall arise between them as to the extent or nature of these repairs, the same shall be submitted to mutual arbiters; and, failing the appointment of an arbiter by the tenant in one month after such requisition, the proprietor shall have power to employ persons to put the same in proper order; and the tenant shall be obliged to pay, along with his next rent, whatever the proprietor shall show that he has laid out on that account, whether the charge be esteemed by him to be high or low: And moreover, it is hereby declared, that if the tenant then in possession of this farm shall become bankrupt, or shall execute any voluntary trust-conveyance

of

of his property for behoof of his creditors, or be otherwise truly unable to perform the obligations on his part contained in this lease in a proper manner; then, and in any of these cases, this lease shall, at the option of the proprietor, be null and void; unless the tenant shall, within sixty days after he is required by the landlord, execute an assignation or subtack, of the nature before described, or renounce the possession to the proprietor, for such value as shall be ascertained by mutual arbiters: And further, it is hereby declared, that, at the separation of the last crop from the ground before the end of this lease, the proprietor, or incoming tenant, shall have power to enter upon, and plough the ground that has been in tillage that year, and may then, or sooner if they please, enter upon the fallow after mentioned; which tack the said A. binds and obliges himself, his heirs and successors, to warrant to the said B. and his foresaids, at all hands, and against all deadly, as law will. *For which causes, and on the other part*, the said B. binds and obliges himself, his heirs, executors and successors, to pay to the said A., his heirs or assignees, the sum of of yearly *money-rent*, * for the said farm, at the term of Whitsunday yearly, the sum of , beginning the first term's payment at the term of Whitsunday that shall happen a full year after the said B.'s entry to the said farm, with interest thereof from the foresaid term of payment till payment thereof, and a fifth part more of penalty in case of failure; but the last year's rent, whether in money or in grain, shall be payable fourteen days before the term of the said tenant's removal: And further, the said tenant shall deliver to the said A. and his foresaids, at any place desired by them, within twelve miles of the farm, betwixt Christmas and Candlemas, yearly, the following quantities and sorts of grain, viz. ; or otherwise, the second fiar prices of such grain for the county of , at the option of the proprietor: Also, the said tenant shall be obliged to pay the minister's stipend, and salary of the schoolmaster, for which he is to be allowed deduction out of his rent. Moreover, the said tenant shall labour, cultivate and manure the said lands in a husbandman-like manner, and not run out the same; and shall not, during the currency of the lease, have two white or culmiferous crops running; and, during the four last years of his possession, shall not have above

*. From the diminution of the value of money, and other causes which have of late years so rapidly increased the value of farm produce, it seems but justice to the landlord, in a lease of even no more than fifteen years, to make a proportion of the rent payable in victual, perhaps to the extent of a half.

three fourths of the arable lands of the said farm under tillage at one time; and the other fourth, so in grass, shall be laid down in a proper husbandman-like manner, and with proper grass seeds, and after a naked summer fallow properly manured: the half of the remaining three fourths shall be, one half in green crop, and one half in naked fallow, unless the landlord shall, from the clean state of the farm, dispense with the said naked fallows, and admit of green crop fallows in their stead: And during no period of the said lease shall the tenant be allowed to dispose of any part of the produce of the said farm, except cattle, and grain thrashed out, * unless with consent of the landlord, and under condition of the tenant's bringing otherwise upon the farm a quantity of putrescent manure equal to what might have been derived from the commodities so carried off the farm; the straw of the last crop being excepted, which the tenant may dispose of on foot, or otherwise, as he shall think proper; and he shall also receive value, by the decision of mutual arbiters, for the third part of the dung that shall be upon the farm at his removal, but not for such as has been lying upon the grounds for a longer period than from Whitsunday previous to his removal. And further, the landlord having put all the fences and the houses on the farm in sufficient tenantable repair, and they being accepted as such by the tenant, the said tenant obliges himself and his foresaids to leave the same in like tenantable condition, ordinary tear and wear excepted; and to make good to the said landlord all damages which may accrue to the farm, or houses or fences thereon, by his carelessness; and also to defray any loss or damage that may happen to the houses by fire: And the said tenant binds and obliges himself and his foresaids, to flit and remove from the said possession at the expiration of this tack, without any warning: But if he shall remain after the said period, it is agreed to, and understood by the said parties, that the rent which shall thereafter be payable in the same manner as above specified, shall be doubled in extent; and the tenant accordingly hereby becomes bound for the said increased rent during the period of the tacit relocation; or, in the option of the landlord, the said tenant hereby grants warrant to the said landlord and his foresaids, to eject the said tenant and his foresaids, and to enter into possession of the said farm summarily, at their own hands, without any claim, action of damages, or hazard at law therefor whatever. And the said C., as cautioner for the said B.

* This lease does not apply, in this part, to an arable farm in the vicinity of a city, where great quantities of putrescent manure can at all times be purchased.

B. the tenant, and his foresaids, binds and obliges himself, his heirs, executors and successors, that the said tenant shall stock the said farm fully and properly; and also, that he shall sow the same the first year of this lease; and likewise that he shall pay the first year's rent, in the proportions, and at the terms above specified, with interest and penalty in case of failure, all as above expressed. And, lastly, both parties bind and oblige themselves and their foresaids to implement their respective parts of the premises, *hinc inde*, under the penalty of Sterling, to be paid by the party failing to the party observing, or willing to observe the same, over and above performance. And in all cases mentioned in this lease to be decided by mutual arbiters, it is hereby declared, that if either party shall decline to appoint an arbiter or arbiters within ten days after being required by the other party so to do, the Sheriff, or other Judge-ordinary of the bounds, shall, upon the application of either party, have power to appoint persons of skill to decide, and whose decision shall be final. And the parties consent to the registration hereof in the books of Council and Session, or others competent, therein to remain for preservation; and that letters of horning on six days charge, and all execution needful, may pass upon a decreet to be interponed hereto, in form, as effeirs. And thereto they constitute their procurators, &c.

In witness whereof, &c.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Expense of Enclosing Land.

SIR, *Haddingtonshire, 20th March*, 1809.

I OBSERVE in your Magazine, (No. 37. p. 98.), a query with regard to enclosing, viz. 'What may be the expense of enclosing 200 acres of land in Berwick or Haddingtonshires, supposing the land square, and to be divided into 8 enclosures of 25 acres each, by stone walls lipped with lime, and seven quarters high?'

The question is very distinctly put; and, if you do not receive an answer more to your mind, before the publication of your next Number, pray insert the following.

	Chains.
Two hundred acres make 2000 square chains; the square root of which is one side of the farm, viz.	44.72
Four outside and four inside walls of same length -	8
	357.76

	Chains.
Brought over	357.76
Deduce three crossings	.06
Scotch chains	357.70
English do.	401
Yards in a chain	22
	8822

Now, at 7 quarters high, the length of a rood is 20.57 yards; therefore, $\frac{8822}{20.57} = 428.8$ roods of mason-work, if the farm is Scotch measure; but, if English acres are meant, 382½ roods.

This might be considered a sufficient answer to the query; as, upon that ground, any person can make an estimate according to his local circumstances. Yet I shall make one upon our common prices, and on the idea of driving two carts of lime, sixteen carts of stones, and four carts of sand per day.

One rood lipped work, including cape	L. 1	4	0
Four bolls limeshells, at 2s. 3d., barley measure	0	9	0
Carriage of do. at 15d. per boll (4 bolls p. cart)	0	5	0
Twenty-four double carts stones, at 9d.	0	18	0
Carriage	0	15	0
Three and a half carts of sand, 3s.	0	10	6
Carriage of water for lime	0	1	0
Expense of one rood	L. 4	2	6
——— of enclosing 200 acres	L. 1754	5	9

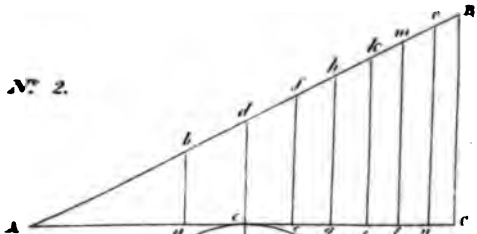
The expense will vary prodigiously, according to the price, and distance of materials.

It may be of some utility to show, that the expense differs also according to the figure of the farm. I here present four figures (see *Plate*), which fully demonstrate this. These figures all equally contain 200 acres. The circle (No. 1.) is the most capacious of all figures; and the triangle (No. 2.) the least, with regard to their boundary. The square (No. 3.) is least expensive, upon the whole, though the oblong (No. 4.) is the most easily *subdivided*. The triangle requires more both in boundary and division lines, as may be seen by the following note from the figures themselves.

	Boundary.	*Divisions.*	*Total Scotch Chains.*
The Square	178.88	178.88	357.76
Circle	158.	201.52	360.02
Oblong	223.60	156.52	380.
Triangle	234.16	213.04	447.20

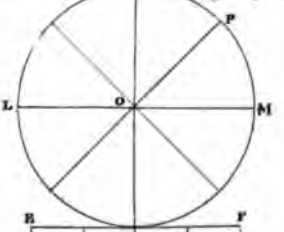
The

N.° 2.



AB = 100.
AC = 89.44
BC = 44.72

N.° 1.

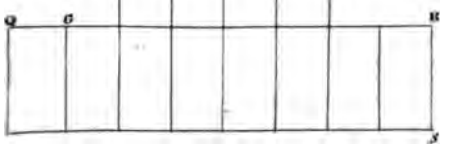


LM = 50.38
OP = 25.19
PM = 19.75

N.° 3.

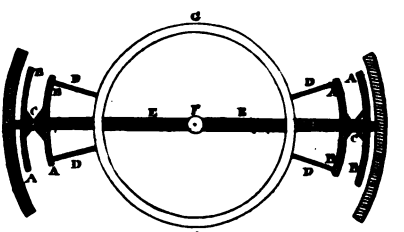
EF = 44.72

F. 4.

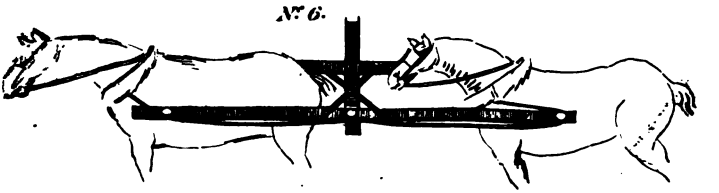


QR = 89.44
RS = 72.36
QG = 31.48

N.° 5.



N.° 6.



The figures are protracted from a scale of 20 chains to the half inch. The divisions of the triangle are projected by a very simple operation of logarithms, in a manner entirely new. Upon trial they will be found correct.

Chains.	*Distances.*
$a\,b = 15.80$	$A\,a = 31.61$ *chains.*
$c\,d = 22.34$	$a\,c = 13.12$
$e\,f = 27.38$	$c\,e = 10.04$
$g\,h = 31.62$	$e\,g = 8.48$
$i\,k = 35.36$	$g\,i = 7.45$
$l\,m = 38.72$	$i\,l = 6.75$
$n\,o = 41.82$	$l\,n = 6.21$
	$n\,o = 5.78$
213.04	89.44

As this mode of dividing triangular plots very often occurs to be necessary on farms, it may, on some future occasion, be distinctly shown. The method will apply to triangles of every description. I am, Sir, your most obedient servant,

CALCULATOR.

NOTE.

THE Conductor is highly obliged to the gentleman who sent him the above paper; and requests a continuance of his correspondence. From the statements given, it evidently appears that the expense of enclosing 200 Scotch acres of ground with stone and lime walls, cannot, in ordinary cases or situations, especially where the marches are irregular, be estimated at less than 2000*l.* Sterling, or 10*l.* for each acre of land that is enclosed. Now, if an annual charge of $7\frac{1}{2}$ *per cent.* is made on this outlay, the advanced rent will be 15s. per acre; though it is a matter of doubt whether an arable farm can be benefited to that extent by enclosing,—we mean where the culture of corn is the chief object. We will thank our ingenious correspondent for similar calculations concerning the expense of enclosing by hedge and ditch; and request he will hold in view the loss of ground by such fences.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I SUBMIT to your consideration the following draft and description of a new mode of yoking horses in a thrashing machine, which has been thought by many people in this neighbourhood to be an improvement of considerable importance.

And I am yours, &c. M. H.

Description of Figure, marked No. 5.

(see *Plate*, facing p. 196.)

A B B repreſent a ſhaft curved in the ſame degree as the outſide or wall of ſhade, and fixed by the middle upon a beam of wood E E, which paſſes through the upright ſpindle F; and A B repreſent an inner ſhaft, placed juſt as near it as to allow the horſes room to work. The croſs, C, ſtays to keep the ſhafts firm.

D D, additional ſtays, up to the outer wheel G, from the ends of the inner ſhaft. The ſhafts placed about three feet four inches high from the horſe courſe.

A A, horizontal pulleys fixed upon the ſhafts by an iron ſteeple (ſecured by a ſcrew under the ſhaft), the foremoſt leg of which ſerves for the axle, and ſtrong enough to endure the draught of both the horſes. The outer pulley placed about five feet two inches from the beam; the inner nearly at ſame diſtance.

B B B are ſmaller pulleys to conduct the rope; in theſe, one leg of the ſteeple muſt be on the outſide.

A trace of ſeventeen feet in length, with a few iron links at the ends, by which it is hooked on the near ham of the leading horſe, then paſſed on the outſide of the guiding pulleys B B, but within the ſteeple (which the groove in the pulley admits); then, turning round, the pulley A (alſo within the ſteeple) is hooked to the near ham of the horſe behind.

Another trace is hooked in the ſame manner to the far ham of the leading horſe, and conducted by the guiding pulley B round by the outſide of A, and hooked to the far ham of the horſe behind. This far trace may be ſomewhat ſhorter than the other.

The advantages ſuppoſed to be derived from this mode of yoking the horſes, are, 1ſt, That each horſe has his own ſhare of the draught, as much as when yoked abreaſt with ſwingtrees, while the utmoſt length of lever is preſerved. 2d, In practice it has been found that the horſes go more ſteadily and uniformly, ſo as to approach nearly to the motion of a water-wheel, which muſt be greatly in favour of the machinery; and ſome raſh, unſteady horſes, that had been laid aſide as improper for the machine, have been tried, and found to work pleaſantly in this way.

It is recommended to put the quickeſt horſe of the pair to lead, as the horſe behind ſoon learns to keep his head up to the beam; whereas, if the leading horſe ſlacks, the other is prevented from drawing.

M. H.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Strictures on the Laird's Letter, Vol. IX. p. 294.

SIR,

HAVING much of the patriot in me, there is nothing which affords me higher pleasure than to see liberal and enlightened notions displayed by men in the higher ranks of society, who have it much in their power to put them practically in execution. I was therefore much gratified by that excellent and judicious paper under the signature of *A Laird*, which you gave us in your thirty-fifth Number. The good sense and correct reasoning with which he combated those poisonous opinions which you and some of your correspondents had (no doubt unthinkingly) brought forward, must have carried conviction to every impartial and candid mind. Every proprietor of land ought most seriously to meditate on your Laird's arguments; and endeavour to comprehend them in all their bearings; as, if he remains in the dark now, he can only have himself to blame.

I agree perfectly with your correspondent, that *long leases of nineteen years* are highly improper; and I consider an endurance of lease beyond seven years as prejudicial to the real interest of the farmer, the laird, and the community. By the time a lease has endured seven years, the farmer will most probably have improved his farm, and laid out his capital, and may then begin to derive some returns; which circumstance might lead him to wish to live, as he would absurdly call it, a little comfortably, by seeing a few of his neighbours now and then to dinner;—they would invite him again;—a competition might ensue between the families in the neighbourhood, which might bring them all to ruin. These consequences your ingenious correspondent has strongly argued to result from a person thriving as a farmer. Some of your shortsighted readers may be apt to say that they have found these consequences contradicted by their experience; and that, in general, when a man thrives as a farmer, he is then induced to greater activity, and is more anxious to make greater stretches to improve his farm to the utmost. It would probably be replied, on the other hand, by your correspondent, that some have acted otherwise; and why may not all? At any rate, it becomes every judicious proprietor to guard against the possibility of such fatal consequences to the farmer, the community, and himself. And above all, it is to be recollected, that, when the farmer begins to get his profits by having dressed his farm, he is then able to pay a greater rent to the landlord, into whose pocket your correspondent has justly assumed it as an axiom, the most

of the profits ought to go. This axiom, self-evident as it is, may perhaps, to the dull apprehension of some, appear not altogether correct; I shall therefore endeavour to set it in its true light. It is clear to all, that landholders are by far the most useful and most enlightened class of the community. They are our legislators, or have the power of electing those who are;—and how happy it is for the nation that they are so, must be abundantly evident to those who consider the perspicuity and mild wisdom which many of our acts of Parliament manifest, and the great tenderness for the good of the lower classes in society so much displayed in the game laws, the excise laws, and the whole system of taxation. When, again, we advert to that spirit of gaming, horse-racing, and debauchery of all kinds, which is so very conspicuous among the richer landholders, we must be deeply convinced of the incalculable benefits derived to the community by this class, when we consider that *private vices are public benefits*, as that excellent author Mr Mandeville has so well evinced in his 'Fable of the Bees.' It must therefore be apparent, that it is of the greatest consequence to the nation that the whole profits, except what are barely sufficient for the maintenance of the farmer and his family, ought to go into the pockets of the landholder, who is likely to apply them to such excellent purposes. And further, the farmer and his family are completely prevented from attempting to imitate the vices of their betters, in which they must ever come far short: and the extent of vice, the most beneficial of all things to the community, is promoted by the pockets of the landholder being better supplied.

Another advantage to be derived from giving leases for the term of seven years, is, that the farmers are thus kept in a proper degree of dependence on the proprietor, and are more subservient to his will. This, it may be argued, would have a tendency to damp their spirits, and stop their ardour for improvement. But such reasoners have not entered into the enlightened views of your correspondent, who shows the absolute necessity of checking that spirit among tenants, by denying them all encouragement to build houses, &c.; because, whenever they are in any comfortable situation, they instantly, as he so convincingly demonstrates, manifest a tendency to encroach upon the province of the landholder, by imitating his vices and absurdities.

I am perfectly of your correspondent's mind, too, that the clergy, in particular, ought to be depressed, as they are now become useless, owing to religion having gone out of fashion; and, of course, all the stupid notions which were once entertained, that a clergyman ought to be able to live in a comfortable way to maintain his respectability, are now quite obsolete. And I am

happy

happy to inform your correspondent, that, in a northern county, a proprietor of considerable note has given his clergy their small farms only from year to year, that they may not pretend to any degree of independence. This measure has likewise been strongly recommended to another great man by his factor, a most enlightened man, but is not yet acted on. It is certainly in a high degree worthy of being adopted.

It is however exceedingly to be lamented, that there is a very considerable body of proprietors who are totally unworthy of the situation in which they are placed. Your correspondent has given a gentle insinuation of this kind by naming some of them, Lord Sommerville, Sir George Mackenzie, &c. These men, adopting a set of notions at variance with those of your correspondent, seem anxious about the prosperity of farmers, not reflecting on the fatal consequences which might ensue. I would therefore humbly suggest to the superior wisdom of your Laird, whether it might not be worth while to bring a bill into Parliament to tie up the hands of such men, and prevent them from pursuing such destructive measures. This bill might contain various enactments of immense consequence to the landed interest: among others, the following ought not to be forgotten. 1. That no lease exceed seven years (this would tally exactly with that excellent provision in the Income bill, which requires a new valuation at the expiry of this term), and all leases already granted for a longer period be curtailed to the above time. 2. That all houses on farms fit to accommodate more people or cattle than absolutely necessary to the cultivation of the farm, be demolished, on pain of the landlord being declared incapable of holding lands. This will prevent the exercise of hospitality, which your correspondent has very properly denominated *nonsense*, in defiance of that antiquated blockhead the Apostle Paul, who has strongly recommended it.

I am Sir, your most obedient,

January 10th, 1809. A WOULD-BE LAIRD.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On an Evil which subsists among Reapers in some Parts of Scotland.

Pro Bono Publico.

SIR,

THERE is a ſhameful and diſagreeable evil that ſubſiſts among the farmers' ſervants in ſome parts of Scotland; and which I muſt beg

beg, nay inſiſt upon you, to make public in your valuable Miſcellany; for I confeſs I know no other way of aboliſhing the practice; and if any efforts of mine were ſupported by the Conductor of the Farmer's Magazine, I am pretty certain the evil would ſoon be no more. What I mean, is that of a ſtranger paſſing a field of reapers in the harveſt ſeaſon. If within hail of them, he is inſtantly laid hold of, and trundled over a ſheaf of oats or barley, till his upper garments are perfectly abuſed; and, even after this uſage, which he is obliged patiently to ſubmit to, caſh is demanded of him, which, if not inſtantly complied with, his pockets are rifled. I have been aſſailed different times by thoſe banditti; but the laſt attack was far beyond any thing I ever met with. It was, Mr Conductor, in the county of Fife, I think, about the middle of that ſhire, where I was arreſted ſuddenly, and on the King's highway, by a band of no leſs than ſeven ſturdy female reapers. One of them laid hold of my horſe's bridle; another laid hold of me by the arm; a third pulled off one of my boots; while a fourth put one of her hands into my breeches' pocket (for caſh, I ſuppoſe); and while I was remonſtrating upon the impropriety of her conduct, and that I was not accuſtomed to ſuch freedoms, another one, on my right hand, had actually got the two buttons out of the fore ſide of my breeches. I had no thought now, but abſolutely to be raviſhed. I repeatedly vociferated to the maſter, who was in the field, and at no great diſtance, but to no purpoſe. I then addreſſed them in language, not altogether the language of Canaan; called them every thing but ladies: neither had this the deſired effect, till one of them ſlily put her hand into my waiſtcoat pocket, and took from thence three ſhillings, all the ſmall money I had about me at the time, and ſo they walked quietly off with the booty. Had I had as many guineas, I would cheerfully have given them, to have got rid of thoſe very troubleſome daughters of *Ceres*.

That proſperity may always attend your Work, is the earneſt wiſh of, Sir, your moſt obedient ſervant,

Auguſt 1ſt, 1808. TRANSATLANTICUS.

NOTE.

THE above complaint is given to the public exactly in the words in which it was communicated to us; and ſhould it be exaggerated, we have only to plead that we had no means of detecting its fallacy. At the ſame time, we are in duty bound to ſtate, that no ſuch practices prevail in the diſtrict with which we are particularly connected, where the reapers are better diſciplined than to behave in the manner deſcribed by our correſpondent.

N.

To

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On a Method of ripening Grapes on a common Garden-Wall, and the Introduction of a new Spring Wheat into Scotland, &c. &c.

IR, *Forfarshire, 8th April,* 1809.

IT is long since any article has occurred to me worthy of being ommunicated to the readers of your useful Magazine. Two, owever, have come to my hand lately, that, in my opinion, me- t a place in it. The first may be found in one of the supple- ientary volumes of the Repertory of Arts. It is a method of pening grapes on a common garden-wall in Scotland; and as is is professed to be done without glass or fire, some of your aders may be induced to try the experiment, which is an easy ne; and to acquaint you with the result. The protection of our uit-trees, by means of coarse woollen nets, has been found to nswer so well, that they tell me the making of such nets is be- me a trade, by which some poor people earn a livelihood in this unty.

The other matter I deem worthy of being more generally known, a Spring wheat, long known and sown in the fens of Lincoln- ire. Its value to Scotland may be judged of by the following xtract of a letter from a Lincolnshire gentleman, whose name, ad I thought of asking permission to mention it, would remove ll doubt as to the fact. It bears date 3d April, 1809, and is tran- ribed here *verbatim*. '*I must set you right in one point. I did not discover this wheat: it has been in use for many years in the marsh lands of Lincolnshire, upon my estate. Orders are given for shipping you a quarter of it. You will not be too late, as we never sow in Lincolnshire till the last week in April, to be sure that the wire-worm has done working: and we have sown as late as the 10th May, and had our crop as good and as soon as if sown sooner.*'

Allow me now to express my hopes, that the attempts to ut our farmers on the footing of others, as to the Income-tax, ill at length be crowned with success. Since taxes attached o goods sold by auction—to poor pedlars—to exports of our anufactures, and imports of their raw materials—to receipts nd discharges—to feuing and leasing the smallest spot of ground o poor cottagers, with or without a dog—I turn my eyes from he hideous subject of taxation. But I lived in Holland, then urthened more heavily than we are now, and found it the rich- st and most flourishing, and highest cultivated state in Europe; and

and am sometimes inclined to believe there is a charm in liberty that averts the evils of the most baneful system of taxation. Under the shade of liberty, our land rises in value and production, our houses, clothes, tables, offices, all improve, as if we lived in an age of premiums, instead of taxes. But for poor widows, annuitants and pensioners, I can discover no oar, bush or rope to save them from sinking under the effects of our taxes, and the rise of the price of every article of life in consequence of them.

Yours, &c. DOMESTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Moss Husbandry.

By the Reverend Mr HEADRICK.

SIR,

I BEG leave, through the medium of your useful and extensively circulated publication, to offer a few remarks,

I. On the conversion of moss into manure.

II. On the conversion of moss into soil.

In an essay on manures, printed by the Board of Agriculture (of which I have preserved no copy, and must speak of it from indistinct recollection), I stated the substance of what had then come to my knowledge respecting the conversion of moss into manure, by mixing it with dung or lime, or both; or by exposing it to be moistened with foul water from the stables, cow-houses, &c. I have since learned, that the method of mixing moss with dung, recommended by Lord Meadowbank, has been practised in this county from time immemorial. Were the foul water which runs from Edinburgh, Glasgow, Paisley and other towns, collected in reservoirs, and made to act upon moss, a prodigious quantity of valuable manure might be procured. Mr Reid, of Ratho, long ago adopted this idea, collecting all the foul water that issues from his premises, into a reservoir, where it is either mixed with moss, cleanings of ditches, &c.; or is carried out and sprinkled upon the land from a large cask fixed upon a cart. When the cart arrives at the field, a plug is pulled out of the hind-end of the cask, which admits its liquid contents into a cross trough, fastened on the back of the cart, whose bottom is perforated with holes. The horse moving slowly along, the foul water is dropped upon the top of the ridge, as from a watering-pan. The consequence is, that, when I last had an opportunity of seeing that gentleman's operations, instead of bringing dung from Edinburgh, at a vast expense, he was abundantly supplied from his own premises, and had even brought

ought into cultivation a conſiderable extent of waſte land from its own reſources. The good people of London waſh all their excrements, through ſewers, into the Thames, and then pump them up for drink to the inhabitants. The worthy citizens are not aware how much the contiguous land hungers and thirſts for a taſte of their drink.

But the ſubject to which I wiſh chiefly to call your attention at preſent, and that of your ingenious correſpondents, is a method of converting moſs into manure, without any mixture of lime, or dung, or any extraneous ſubſtance.

Soon after the eſſay already alluded to was ſent to the Board, I had frequent occaſion to be with my worthy friend, James Mylne, Eſq. at his farm of Blackbyres, near Paiſley. He has ſince become Profeſſor of Moral Philoſophy in the famous college of Pandemonium; and many regret that honeſt Farmer James ſhould have ſtumbled upon ſuch an intractable ſoil. At that time, Mr Mylne was operating upon a field of about twenty acres, which, being the moſt ſterile in his poſſeſſion, was left the laſt to be treated with fallow and manure. Patches of it had been formerly imed to exceſs, and then cropped with oats, until they no longer eturned the ſeed. Parts of it carried ruſhes; and others ſtunted eath. A few ſandy and gravelly knolls carried ſtunted broom. Much labour was employed to make it dry, both by concealed and y open ſlope drains,—to level eminences, and to fill up hollows. The ſoil was chiefly a ſterile till, of a whitiſh or bluiſh colour, nd apparently formed from the decompoſition of beds of pyritial and aluminous clay, which accompany the coal of that diſtrict.

At the ſouth end of this field, there was a hollow place, of about an acre in extent, occupied by moſs. This moſs conſiſted chiefly of the *ſphagnum palustre*, in a growing ſtate; and its fragments retained a white or yellowiſh colour, after being expoſed to he air: whereas, good peat is commonly of a mahogany colour t firſt; but ſoon becomes black. In order to drain this moſs, nd reduce it to cultivation, a very large ſlope-drain was made aong its boundary with the ſolid land. With the moſs thrown out f this drain, Mr Mylne reſolved to try experiments, with a view o aſcertain the moſt practicable mode of converting it into manure for his other land.

It was laid up in a long ridge, or *sow* as it is called in Scotland, nd part of it was mixed with dung, in various proportions, arranged in alternate layers. Part of it got various proportions of ime, arranged in the ſame manner; and part of it got various roportions both of lime and dung, there being always a ſtratum

of

of moſs interpoſed between the ſtrata of lime and dung. A however, the lime and dung were exhauſted, and no more ther could be procured; and a large portion of this moſſy s mained, without any mixture either of dung or lime.

After this large compoſt was made up, in the way def it occurred to Mr Mylne, that the lime had rendered the m dry, and that this might counteract its decompoſition. were therefore procured, and water was repeatedly thrown the whole heap, from a pure rill which ran in the drain which the moſs had been taken, from a copious ſpring in a bouring field. Poles were thruſt down here and there fro top, in order to convey the water into the interior parts heap. The whole heap was turned twice, and ſome of it and had water thrown upon it during the turning; while the clods were choppell and mangled with the ſpade.

The land having undergone a complete fallow, in order mit a fair compariſon, part of it was manured with Paiſley at the rate of about 4l. per acre value. Part of it got bot and dung. The moſſy compoſt, beginning at the part firſt up, was then laid as regularly as poſſible over the whole rem of the field, and formed a very ſtrong doſe. The field after carried a heavy crop of wheat; and Mr Mylne aſſured me neither he, nor the beſt judges he conſulted, could perceiv difference in the appearance of the crop, correſponding to t ferent ſorts of manure that had been applied. What ſu him moſt, and was leaſt expected, was, that the crop whi got only chopped and watered moſs, without either dung o was fully as good as any of the reſt.

My ingenious friend, Mr Pitlow, at his farm of Deans Bathgate, has adopted what I take to be a great improven the converſion of moſs into manure, without addition. H out his moſs, at the depth of a ſpading, upon a piece of dry guous land. By expoſure to the air, and moiſture from the he it ſoon begins to become brittle, and to moulder down into a ſubſtance. To haſten the proceſs, he lets in the plough u occaſionally, and cuts and mangles it in various directions. has the effect of not only tearing it in pieces, but of expoſin ſurfaces to the action of the air. When the moſs, treated manner, begins to throw up chick-weeds, he judges it to be for uſe. It is then mixed with dung, or lime, or both; wh ſerves to diſtend, and cauſes to produce a much greater effec they otherwiſe would do. Or it is applied to the land by and makes excellent manure, without the admixture of eithe or lime.

Mr Stirling of Carſbank, a gentleman whoſe ſkill and ſucceſs in agriculture are too well known to require illuſtration, is employed upon a ſimilar experiment at preſent, the reſult of which may be afterwards communicated. It may be obſerved, that the land on which this moſſy manure was laid, is what is called till, or cold bottomed land; and Mr Stirling's land is chiefly of this deſcription. I wiſh your ingenious correſpondents would try ſuch experiments with all kinds of land, and with various ſpecies of moſs, and report the effects. No two people underſtand one another when they ſpeak about moſs. An experienced eye can perceive very great differences in the properties of different moſſes, either as applicable for manure, or for being converted into ſoil. But it is not eaſy to explain in what theſe differences conſiſt.

Moſs, in its original ſtate, is macerated or infuſed in water; but it exhibits no ſymptom of putrefaction, or of chemical decompoſition. It is ſomewhat like wood and pitcoal, which undergo no chemical change while completely ſoaked in water, and excluded from the action of the air. But if you kick and agitate peat moſs in a very dark and moiſt night, it appears among your feet like flames of fire. Putrid fiſh, wood, leaves of trees, and a great variety of animal and vegetable matters, exhibit the ſame appearances, if they be moiſt, and expoſed to the air. I take theſe appearances to be owing to a ſlow *inflammation* or *putrefaction*, which does not ſeem to differ from inflammation, except in the inferior degree of its rapidity. A damp ſtack of hay or ſtraw has been known to putreſy ſo rapidly, that it actually took fire. A large heap of coals, eſpecially if they contained martial pyrites in their compoſition, when expoſed to air and moiſture, has alſo been known to take fire. The effect ſeems to be produced in conſequence of the decompoſition of water, and the abſorption of oxygen from the atmoſphere. The reſult of theſe proceſſes ſeems to be the formation of carbonated hydrogen gas, or *heavy inflammable air*, as it is ſometimes called; carbonic acid gas, carbonic oxide gas, and perhaps alſo of olefiant gas. All theſe gaſes are evolved during the putrefaction of vegetable ſubſtances; and they are obtained in great quantity when peat or pitcoal are ſubjected to the deſtructive diſtillation, in the formation of gas lights. It ſeems to be aſcertained, that the moſt fertile ſoils are thoſe which yield, by diſtillation, the greateſt proportion of theſe gaſes, and eſpecially of the firſt, or carbonated hydrogen gas. Now, I take it, that the expoſure of moſs, or any other ſubſtance which contains much charcoal, to the joint action of air and moiſture, cauſes the ſubſtance to enter into new, or gaſeous combinations, which remain attached to the earthy reſiduum; and, when mixed with the

ſoil,

foil, theſe gaſes are readily abſorbed by the roots in union with water, and contribute to the nourishment of plants. Pitcoal, as it contains a large portion of bitumen and oil, is not ſo readily acted upon by air and moiſture; and hence cannot ſo eaſily be converted into manure as moſs. But Mr Henderſon, at Hamilton, having occaſion to fill up an old coal pit, in order to get rid of a large maſs of coal-culm which remained after the pit was filled, ſpread it equally over a very ſterile field in the centre of which it was ſituated. He expected the culm would deſtroy the land entirely, until its fertility was recovered by liming and manures. But to his great ſurpriſe, the field being ploughed up, yielded ſeveral ſucceſſive crops as ſtrong as they could ſtand. It would ſeem, that the coal being trod on, and bruiſed by horſes and carts during the time the pit was working, had undergone the ſlow inflammation, and had been reduced to the ſame ſtate with moſs that had been treated as above deſcribed. Notwithſtanding all that my ingenious friend Mr Naſmyth has ſaid in his late treatiſe on moſs, and the fertilization of land, I am ſtill diſpoſed to entertain doubts, whether charcoal can be ſo completely diſſolved in water, as to enter into the extremely minute veſſels of plants. Charcoal may indeed be diffuſed through water in very ſmall particles; but it does not ſeem to admit of perfect ſolution, like ſugar and other ſalts. Thoſe plants, which admit of collecting their ſap in any examinable quantity, always exhibit this liquid in a frothy ſtate, or blown up by ſmall bubbles of aërial or elaſtic fluids. I am therefore inclined to think, that charcoal enters plants in union with hydrogen or oxygen, in which combinations it forms a conſtituent ingredient in the compoſition of an aërial or elaſtic fluid. In ſupport of this, it may be mentioned, that ſeveral farmers, of the greateſt experience, have aſſured me, that they have known fields apparently exhauſted, ſo as not to be thought worth ſeed and labour, recover more fertility by a naked fallow, than they could have done by a dunging at the rate of from 4l. to 5l. per acre. Though part of the effect may be aſcribed to the extirpation of weeds, I am inclined to think, that much of it was owing to the turning up of the ſoil, and expoſing the charcoal it contained to the action of the air; and thus exciting in it a new formation of gaſeous products.

But I forget that, when I began, I meant to confine myſelf to the ſtatement of a few ſimple facts; and I doubt not but you and your readers may think I have digreſſed too far into the regions of theory and conjecture. Whatever opinion you may be diſpoſed to form of my theory, you may be aſſured, that moſs was converted into a very valuable manure, without any addition whatever, by

means already described. I could wish, as already hinted, ur ingenious correspondents would try the experiment with f every description, and ascertain the effect of its applica- every species of soil. In agriculture, as well as all the ex- ntal arts, one well authenticated fact is worth a thousand s. But I proceed to offer a few remarks.

II. *On the Conversion of Moss into Soil.*

n essay on the improvement of waste land, which was pub- I think, in the Second Volume of Communications to the of Agriculture, I entered very fully into my friend Mr of Swinridgemoore's method of improving moss, and de- everal chemical experiments I had made upon that subject. d that the alkalies formed a species of soluble soap with but that lime and the metallic oxides formed insoluble soaps oss, as they do with the fixed oils. After the combination e and moss is effected, water no longer dissolves any of the ents; and hence, water which runs from a moss which has rought and limed, is limpid and pure; whereas that which om an unlimed moss, is of a dark porter colour, and con- n infusion of the mossy matter. If you drop a small quan- lime water into moss water, it soon carries down all the matter, leaving the water limpid and pure. As Captain ascertained that moss water never putrefies, though ever so pt at sea, I conceived this fact might be usefully applied ecuring fresh water for our seamen. Lime also extracts hoss a considerable portion of tannin; for, after being d with fresh moss, a limpid extract may be obtained, which es an inky precipitate in a solution of sulphate of iron.

without repeating what was fully detailed in that essay, I roceed to lay before you an experiment of the same ingeni- ntleman to whom I have so often referred, namely, Mr , at his farm of Deans, near Bathgate, who has succeeded erting into very fertile soil a considerable portion of moss, t the application of lime, or dung, or any manure what-

Pitlow's moss always appeared to me to be one of the worst uld possibly be selected for conversion into soil. Its sur- is occupied with tufts of coarse grass and heath, with va- ieties of lichens, with sphagnum palustre, which frequent- ned knolls, in which you would sink as into a bag of The intervals of these plants were furrowed out by water, frequently collected in basins; and it required much cau- walk over the moss, so as to avoid dropping out of sight. the water was evaporated, during summer, from the ba- which it had stagnated, the moss at the bottom had a very

strong styptic or astringent taste, somewhat resembling that of sulphate of alumina.

Mr Pitlow's first care was, to dig a long and deep drain to discharge the water from the outlet of this moss; in making which he came upon a good seam of coal. He then made drains between the moss and the solid land on each side, and another up through its centre. Other drains were run across from side to side, so as to divide the moss into regular fields, of from eight to ten acres. These drains were made so deep and wide that they serve all the purposes of fences. He then tried various methods of reducing the moss into cultivation; such as paring and burning; delving into ridges with the spade; and then liming, dunging, &c. His moss was of such a porous and untractable nature, that none of these methods succeeded. On one field, from which the upper stratum had been removed by casting peats, he laid a very strong dose of compost of lime and clay. Here, indeed, he had excellent crops; but he thought the experiment was too expensive to be persevered in.

The plan he at last adopted was, to trench his moss, to the depth of from two to three feet, by which he throws down the porous woolly stuff, with the heath and coarse herbage, to the bottom; while a more dense and compact species of peat is thrown up, to form a soil upon the surface. The trenching is executed in regular spits, or courses, crossing from one main drain to another. The bottom of each course is shovelled and smoothed, so that water cannot remain stagnant on any part of it. The superficial turf is cut of a spading depth, of a parallelogramic form, and as large as can be easily turned over. These turfs are regularly arranged, with their herbage downwards, upon the smoothed bottom of the preceding trench; and upon them are spaded the beds of moss below, the order of their position being reversed. What was formerly lowest, is now made uppermost; and the superficial clods are champed and mangled with the spade while they are placed in their new position.

At regular distances, of from forty to fifty feet, subterraneous drains are cut through the under moss, or that part of it which was not stirred by the trenching. These are made parallel to each other, and cross from one open, or main drain, to its opposite; in both of which they terminate. Their terminations form equal-sided triangles in the sides of the main drains; and they perpetually discharge a highly acrid and astringent juice. These concealed drains are made to cross the declivity of the moss, where it has any sensible declivity; so that all water which percolates between the heathy or porous stuff which formerly occupied the surface, and the denser peat below, cannot fail to get into them. These drains

drains are made by a scoop, which is about eighteen inches long, about one inch broad at the point, or lowest part, and from three to four inches broad at the top, into which a handle is inserted like that of a common spade. The rut being formed by this scoop, is covered by those superficial turfs which contain most heath, or coarse herbage. The moss is now allowed to remain to gather fertility from the action of air and moisture, its laceration and disorganization being hastened by frost. Or, after it has acquired sufficient consistency to bear the tread of cattle, a light plough, drawn by a single horse, is let in upon it, to cut and mangle it in various directions, and expose new surfaces to the air. No ridges, nor water furrows, are formed in this moss; the concealed drains serving the purpose of the latter. It exhibits the appearance of a smoothed lawn.

When Mr Pitlow sees chickweeds beginning to abound in moss prepared in the manner described, he sows grass alone, without any corn crop. The chickweeds, as in the case of moss prepared for manure, he regards as an evident symptom that the subject thus operated upon is rendered fertile; and though not of sufficient density to carry corn, is able to carry a luxuriant crop of grass.

The last time I had the pleasure of inspecting Mr Pitlow's operations, was towards the close of January 1807, when I was on my way from the island of Skye to Edinburgh. I had seen all his former operations on his moss, and was obliged to confess that some projects, in which I was very sanguine at their commencement, had proved abortive. At this visit I saw a considerable extent of moss, the original horrors of which were distinct in my recollection, carrying a most luxuriant crop of grass. The grass was distinguished by its lively verdure, even in the depth of winter; and I thought the moss, prepared in this way, worth from 4*l.* to 5*l.* per acre for ever in pasture. An extensive field of solid land, on the other side of the ditch, had been laid down in grass at the same time, after fallow, liming and dunging; and it appeared to be very inferior in value to the grass upon the moss.

From the success of this first experiment, Mr Pitlow had then a much more extensive tract of his moss in a course of preparation to be treated in the same manner. As these operations were carried on at intervals, when his men had nothing else to do, he could not condescend upon the expense per acre; but he assured me it was not great, as the materials were soft and easily moved. I think there can be no doubt but, after this grass has been depastured for a few years, the moss being reduced to a friable earthy substance, may carry heavy crops of any species of corn. During the ensuing summer he proposed to fold sheep upon the tract then in a state of preparation, in hope that the tread of

their feet, together with their droppings, would very much accelerate the putrefaction, or decompostion, of the moss. Mr Pitlow thought that this mode of improvement would be well adapted for our Scotish Highlands (the improvement of which having long been his favourite object), where he presumed there was neither lime nor dung to be got, but where there are abundance of sheep. He thought that, without folding, were the sheep only enticed to sleep on moss prepared in this way, where they would always find a dry bed, and to resort to it occasionally to ruminate or scratch themselves, the extensive mosses of the Highlands would soon be converted into fields of the highest fertility, either for grass, green crops, or corn. I am likewise inclined to think, that mosses rendered fertile in this manner, might carry luxuriant crops of flax and hemp; and thus our Navy might come to be upheld from our own resources. That improved moss yields excellent potatoes and other roots, is already well known. A very large proportion of the mosses which abound in the Highlands and Isles of Scotland, are already gardens of Eden compared with that on which Mr Pitlow was operating. I think a glance of my eye can distinguish the qualities of moss; and his is among the worst I ever saw, either for being converted into manure, or into soil. The part I saw carrying such luxuriant grass, had never been touched from the time it was trenched, until it was sown down.

I hence think that the proposition I meant to illustrate, namely, that moss may be converted into valuable manure, or into very fertile soil, from its own energies, without foreign admixture, is clearly established by facts, to which reference is made.

In many of our upland pastures, generally stocked with sheep, extensive sheets of moss occur, which are clothed with a thick matting of coarse herbage. These places are too elevated in the atmosphere to admit of expensive improvement. But to increase the quantity, and render highly nutricious the quality, of the herbage they already carry, seems an easy task. Such mosses should first have a ditch thrown round, between them and the solid land; and one, if necessary, led through the centre. Their surface should then be cut into spaces, resembling the ridges in tillage land, by a draining plough. Where these ruts fail to discharge the superficial moisture, a little aid of the spade is necessary, to convey the water into the nearest drain or rivulet. Without going further, this operation alone will very much improve the herbage, and render the ground a comfortable bed for sheep or cattle. If moles should stop up the ruts, they can be cleared, when necessary, by a light plough, drawn by a single horse. But if what is thrown from the drains, together with the fur-slices thrown

thrown from the ruts, be dried, piled into large heaps, and burnt, or rather charred; the ashes, being spread over the surface, will very much improve the quantity and quality of the herbage, care being taken to sow the bottoms of the burnt heaps with the best natural grass seeds which grow in the neighbourhood. If the whole can be followed by a top-dressing of lime, marl, sea-weeds, or any mineral or putrescent manure, the ground will throw up a more valuable crop of hay, or pasture grass, than any that can be raised by grass seeds sown upon ground after fallow and expensive manuring.

Every one who has walked over our upland, or mountain sheep pastures, must have observed that he is generally soaked, and often up to the ancles, even in the driest weather, in moisture; and that the poor devils of sheep never resort to such places (forming a hundred acres at least for one of our Highland pastures), unless compelled by absolute starvation. There the poor creatures paddle like ducks, up to the bellies in water. Having stuffed themselves with trash which merely fills their stomach, but yields them little nutriment, they have too much sense to lye down and ruminate, or to sleep in places which nothing but irresistible necessity could compel them to touch. They retire to dry ground, where they make their dessert; and if this be scanty, they often tear and scrape the grass out from the lowest roots. Now all this wet ground is not only useless, but highly detrimental to sheep; and the source of most of the diseases to which that valuable animal is exposed. If subterraneous springs erupt, they should be conducted into the nearest rivulet. But the principal source of the mischief is water descending from the higher ground, and, in its progress, rendering miry the ground lower situated. This should be intercepted by ruts drawn diagonally across the declivity by a draining plough.

I am afraid, Sir, of getting tedious, and of intruding further into your esteemed work than your room may admit. What I have said about improving upland pastures, is all founded upon experiments conducted by myself. For particulars, I must refer you and your readers to the Second Volume of Communications to the Board of Agriculture, as before. There is only one experiment which I did not communicate to the Board, because I did not then see its result. A very large field, of a cold till soil, more than 1000 feet above sea level, so sterile that it carried only stunted heath, and the hollows where water stagnated carried rushes; the lower herbage being chiefly lichens, and sphagnum palustre, known in this country under the name of *fog*. Even these plants, though they matted the surface, showed no great inclination to grow. This land was subjected to a drill fallow, according to the mode invented by Mr John Mackenzie of Glas-

gow, to the extent of throwing it into three fur drills, and then left to its fate. I had afterwards an opportunity of viewing this scene of my operations on 9th July 1805. The field alluded to seemed sprinkled with snow from white clover, and the drills were clothed with a thick mat of the most nutricious grasses. I hence infer, that in order to improve the herbage of moorlands, you have only to throw the land into drills.

These improvements may be carried as far up the sides of our Highland mountains as there is climate to nourish grass.

At mention of the Highlands, I begin to recollect many mosses, both on the Mainland and Isles, where the occasional regurgitation of streams raises the most luxuriant crops of grass—grass that looks more like young trees than such grass as we are accustomed to see; and it is highly palatable to cattle. On tracing these streams to their source, I found they either flowed from lakes abounding in shell-marl, or from springs erupting from immense rocks of marble and limestone, sometimes including fossil marl; or from burns descending from higher mountains, and crossing immense strata of limestone and fossil marl. These circumstances suggest the propriety of first draining the mosses so favourably situated, and then subjecting them to a watering system. The Highlands and Isles of Scotland are better adapted for grass; for potatoes, and every species of esculent root and green crop; in very many cases for forest trees, sufficient to keep up our Navy, than any part of the British island I have yet seen. In general, the inhabitants ought chiefly to live on potatoes with other roots and plants, and fish taken from fresh waters, or from the sea. The cultivation of corn ought not to be pushed beyond the limits of absolute necessity.

I am now engaged in a survey of this county for the Board of Agriculture; and as it is not possible for me to wait personally on every ingenious and intelligent man in the county, I hope you will not consider it as intrusive, if I should solicit information, through your medium, from your readers in this county, who are very numerous. And I remain, with friendship and esteem,

Sir, yours, &c. JAMES HEADRICK.

Dunichen by Forfar, 20th April, 1809.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations upon the Property-Tax.

SIR,

THE Property tax, as it affects occupiers of land, having appeared to me in a different point of view, to that in which some of your correspondents have considered it, (see Nos. 34. 35. & 36. of the Farmer's Magazine), I beg leave to offer a few observations on the subject.

I am well convinced, that no fair and equitable mode of assessing the actual profits of farmers (instead of estimating the tax as at present, from the rent or annual value of land) has been yet known to the legislature; and I fear that there are difficulties in the way of such a plan, which never can be disposed of. In England and Wales, we have many farmers who can neither write nor read; and the few who could keep regular accounts of their profits, very rarely take the pains to do so.

I write as an occupier of land to some extent, and as a friend to agriculture; and I have acted as a commissioner under all the Income and Property-acts of Parliament. From these circumstances I feel, as a farmer, that the tax is unequal; but as a commissioner, I am of opinion that the tax would be still more unequal, if it were attempted to be estimated on the actual profits. Whether the profits of the farmer are at present rated too highly or not, is a question which I leave to the decision of more competent judges.

There is one matter which does not seem to have been taken into the farmer's account,—I mean his stock or capital; which, if otherwise employed, would be liable to the Property-tax. Suppose a farmer in Scotland rents 100*l.* a year; his profit is rated at 50*l.*; which includes the profit on his stock, and the value of his own personal labour. If, on a fair average, he does not make that profit, one would apprehend that he had either made a bad bargain with his landlord, had been extremely unfortunate, or that he was unqualified for the farming business. The profit is, of course, meant to include the maintenance of the farmer, (and his wife and children, if he has any), all which are rateable portions of income; and even the house which he inhabits, if unconnected with the farm, would be subject to a distinct rent to the landlord, which would operate as a deduction from the income of the occupier, the same as if he were to pay so much to the Property-tax.

Were the farmer to sell his stock, and lend his money upon private security, purchase land, or convert it into an *annuity*; although *he had been within the exemption from the tax as a farmer*, he would become liable to *ten per cent.* tax, either on the interest of his money, the rent of his land, or even on the amount of his annuity, however small his income, however large his family, and without any deduction being allowed.

If an English or Welsh farmer rent 100*l* a year, he is not within the exemption from the tax, but he must pay, on the presumed profit of 75*l.*, - - - - - - L. 7 10 0

Deduction allowed of 1s. in every 20s. between 75*l.* and 150*l.*, or - - - - - - - 3 15 0

Tax payable L. 3 15 0

Yet I dare say, that one half of the rent in Scotland may be equal to three fourths of the rent in England and Wales, in estimating the proportion on which farmers are rated to the Property-tax; because the deductions from the farmers' profits in England and Wales, in the way of tithes and parochial assessments, must reduce their rents, as the exemptions from the same must increase the rent of land in Scotland.

I cannot but contend, that the mode of estimating the tax from the rent or annual value of land, is the only general plan which can be adopted with effect; for if the tax were to be assessed on the actual profits, it would be easily evaded. Suppose, for instance, that a man occupied a farm of his own, and found that it was capable of great improvement; he might determine to expend the whole or more than his profits for several years in improving his land, so that it would appear from his accounts, that he was actually sinking money on his farm: in what manner could his profits be estimated? surely not from his accounts? And what land-surveyor could pretend to say how far the *expenses* of this or that improvement, should be considered as a *profit* rateable to the Property-tax? The cases of this sort would be so numerous and so varying, that it would be impracticable for the Commissioners to execute the acts of Parliament, either with satisfaction to themselves, or to those interested in their decisions; and your readers may judge what would be the consequence. Besides, few farmers would like an investigation of their private accounts, of the manner of managing their farms, and of their skill in particular branches of agriculture; which, like the secrets of a trade, they would not willingly submit to the examination of the commissioners.

That many branches of trade are at this time subjected to such inconveniences is true, and I earnestly wish that it could be avoided; for the reluctance with which tradesmen bring forward their books for the inspection of the commissioners, induces many a one to pay a heavier tax than he ought; while others submit to assessments with pretended dissatisfaction, and withhold their accounts, which would prove their profits to have been underrated.

There are very many cases which might be adduced to show, that the Property-tax is not so equitable in its bearings as could be wished; nor indeed so much so, as it might easily be made. The salaries of curates should, in many cases, be allowed to be deducted by clergymen, and the keep of a horse by some tradesmen and others, particularly by country apothecaries; the small annuitants, although they may be parties to the deeds under which they enjoy their pittances, the tax upon interest of money, and rent of land, should, under many oppressive circumstances, be re-

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considered, when incomes are small, or where there are large families.

But as this letter was intended only to moderate the complaints of one respectable class of people, who, I apprehend, have not clearly understood the advantages which, comparatively speaking, they possess under the property acts; I shall leave the other points, which I have slightly mentioned, to some abler advocate; but nevertheless, with the conviction, that they have a very just claim to the consideration of the legislature.

I am, &c.

Shropshire, March 22, 1809. T. N. P.

REMARKS BY THE CONDUCTOR.

If more was not meant than merely to moderate the complaints of farmers against the Property-tax, we are afraid that the object of our correspondent, in sending us the above paper, will not be accomplished. In fact, he neither assigns a solid reason why farmers should be satisfied with the tax, nor attempts to refute one of the many arguments urged against the assumed criterion of assessment. From a desire to be impartial, we have given him a hearing, though, in our humble opinion, the cause advocated by the Commissioner would not have suffered much, had the paper been peremptorily rejected.

But let us examine more particularly what is stated, when probably it may appear that some of the Commissioners' arguments cut two ways. In the second paragraph, he admits that no fair and equitable mode of assessing the actual profits of farmers has yet been known to the Legislature. This is true; and has in substance been loudly urged by farmers as a reason why the existing law should be amended. As the Property-act stands, none but farmers can be taxed for income not actually enjoyed. The monied and landed interests are fairly dealt with, because not one of these classes can be taxed a single halfpenny, unless funds are in hand out of which the tax is to be deducted; and as to merchants, manufacturers and others, it is their own fault if they are overtaxed in the slightest respect. They make a return of gains and profits in the first instance, to which, no doubt, the assessor or surveyor may add a surcharge; but upon this surcharge they have a right to be heard before the Commissioners, and to disprove the extent of it. None of these liberties, however, are allowed to the farmer. His income is ascertained, not according to the amount of his profits, but according to a hypothetical rule, unfounded in principle, and unapplicable to the general situation of those upon whom it operates. Why those concerned in agriculture should be so harshly treated, we are at a loss to learn. That class of men

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are certainly not the moſt uſeleſs of the community; but, whatever may be their merits, they are at all events entitled to participate of the ſame juſtice as is diſpenſed to their trading and manufacturing brethren. Were farmers, like traders, allowed to make returns, no more than juſtice would be done to them. Their incomes are equally fluctuating and precarious with thoſe of other profeſſional people; therefore, while the hypothetical rule is retained, which on all hands is confeſſed to be an unequal one, we muſt declare, with our correſpondent, that no fair and equitable mode of aſſeſſing the *actual* profits of farmers has yet been known to the Legislature.

Whether the Property-tax would or would not be more unequally aſſeſſed upon farmers, were returns permitted, is a queſtion out of our way to anſwer; becauſe the reſult muſt depend entirely upon the faithfulneſs and integrity of commiſſioners in the ſeveral diſtricts. But one thing is clear, namely, that by adopting ſuch a mode, farmers would eſcape that grievous oppreſſion hitherto exerciſed upon them; whilſt none of them would be ſubjected to aſſeſſments for more income than was actually poſſeſſed. The inequality of income-taxes has been felt in every country where that mode of taxation was reſorted to, and was ſtrenuouſly urged in Parliament againſt Mr Pitt's firſt bill; but it is not the kind of inequality here alluded to which farmers complain of. They do not complain that A pays more than B; or object to the tax, becauſe income from labour ſhould be more leniently aſſeſſed than that which ariſes from ſources of a more permanent nature; but ſolely becauſe they are rated for incomes which are not poſſeſſed. The inequality well known to prevail in the returns made by merchants and others, has never been held out as a reaſon why the act, as applicable to the trading intereſt, ſhould be altered and amended: therefore, withholding the privilege from farmers of making returns, and continuing the rule which fixes their incomes at one half of rackrent, muſt be conſidered as a meaſure by which juſtice is ſacrificed, in order that conveniency may be promoted.

We are not aware of a profound diſcovery being made, when reminded that the intereſt of the farmer's capital ſtock remains untaxed; though our correſpondent gravely adduces that circumſtance, as if it tended to leſſen the objections urged againſt the hypothetical rule aſſumed for aſcertaining the farmer's income. Surely neither rent could be paid, nor income produced, without capital ſtock. In whatever way income may be aſcertained, whether by a fixed rule, or by a ſpecial return, the annual worth of the capital employed muſt neceſſarily be included. The like takes place with the ſtock of merchants and traders. In ſhort, we are

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at a loſs how and in what manner the circumſtance ſtated can be brought to bear upon the ſubject under conſideration. Undoubtedly, if money laid out in ſtocking a farm was lent upon bond, 10 per cent. would be levied upon its annual intereſt; but it does not follow, when the ſame money is laid out in the culture of land, that a hypothetical rule ſhould be adopted for aſcertaining the profits of the owner. Suppoſe that a farm of 400 acres of land requires 3000l. of capital ſtock; the intereſt of that ſum is 150l., which would pay 15l. of property-tax. Now, 400 acres of decent arable land are not to be had, in Scotland, at leſs than 1600l. of rent; and the tenant's property-tax who pays that rent, according to the hypothetical rule, is 80l., or 65l. above the ſum he would have paid, had the money employed as capital ſtock been lent upon bond, or inveſted in government ſecurities. But this is not all. If the farmer actually poſſeſſed 800l. of income, the tax would deſerve leſs conſideration; but very probably his neat income, after defraying tear and wear upon live and dead ſtock, does not exceed twelve and a half per cent. upon the original capital inveſted, or three hundred and ſeventy-five pounds Sterling. If we are right in theſe calculations, it will appear that profits ought not to be eſtimated as exceeding 24 *per cent.* of rent, when a farm is rackrented. Every general rule, however, is liable to exceptions, and, if neceſſary to be adopted, ſhould rather be below the mark than above it.

We are ſatisfied that the great body of farmers are perfectly willing to pay 10 *per cent.* out of their actual profits, in aid of the public expenſes, ſeeing that the exigencies of the times call for an extraordinary taxation. Their complaints, however, are not againſt the Property-tax, but againſt the rule laid down for aſcertaining the extent of their profits. Now, how does our correſpondent ſupport the rectitude of the rule? Why, by ſuppoſing that the Scotch farmer, who did not enjoy 5ol. of profits for every 100l. of rent, muſt, in the firſt place, either have made a bad bargain; or, in the ſecond place, have been unfortunate; or, in the third place, was unqualified for buſineſs. All theſe things may be very true, though they furniſh no defence for the hypothetical rule animadverted upon. Granting that the landlord has driven a hard bargain with the farmer in the firſt inſtance, it does not follow that the hardſhips of the bargain ſhould be increaſed in a proportional manner by the government of the country. The principle of the act is to levy a tax upon income, not upon ignorance; and ſurely, the man who is unfortunate, or unqualified for buſineſs, muſt poſſeſs a ſmaller portion of income than he who is gifted by nature with a larger ſtock of abilities. In fact, the ſuppoſitions of our correſpondent, inſtead of giving ſupport to the hypothetical rule, according to which

which farmers are rated under the Property-act, diſplay its abſurdity in the moſt forcible terms. Indeed, no perſon can view the rule as correct, unleſs he believes that all farms are ſet upon equal terms; and that the poſſeſſors, each and every one of them, are gifted by nature with the ſame meaſure of knowledge and abilities.

The laſt particular which shall be noticed, is the following paſſage. 'Suppoſe,' ſays our correſpondent, 'that a man occupied a farm of his own, and found that it was capable of great improvement, he might expend the whole, or more than his profits, in improving his land,—ſo that it would appear, from his accounts, that he was actually ſinking money on his farm,—in what way could his profits be eſtimated?' We anſwer, ſuch a caſe cannot in the nature of things occur; becauſe there can be no profit from the culture of land, till the expenſes of cultivation are defrayed; but if it did occur, and if the mode of culture adopted tended to meliorate or improve the premiſes, government, at an after period, would receive an increaſed tax from the land which had been thus improved. If the tax was actually upon gains and profits, every improvement which added to the wealth of the poſſeſſor would in like manner tend to increaſe the public revenue. Our correſpondent, however, wiſhes to rip up the gooſe, and get at the golden eggs, before they are naturally produced; otherwiſe, why all this extreme anxiety to load the cultivator of land with taxes, at a period when, by his own account, no diſpoſeable balance remains, which, properly ſpeaking, can be conſidered as income?

But, in arguing this point, our correſpondent prudently refrains from noticing that abominable clauſe, which directs that a revaluation ſhall take place at the end of ſeven years, when every farmer may be taxed in direct proportion to the extent of improvements previously executed. Upon this head, a good deal might be urged were it neceſſary; but, in noticing a paper from the ſiſter country, where ſuch a clauſe, ſo far as we can learn, remains unexecuted, it would not be fair to uſe arguments perfectly applicable to that part of the act, as it has been adminiſtered in North Britain. Our correſpondent ought however to have conſidered, that revaluation is one of the chief grievances complained of by the Scotiſh farmers, and, when commenting upon their complaints, ought to have conſidered them in all their bearings and conſequences. Theſe matters, however, are altogether unattended to. Neither does he reflect, that the term *rackrent* has a very different meaning in the two countries. In Scotland, where the landlord pays all public burdens, rackrent includes all that the Engliſh tenant pays to the church, the poor, and the government,

government, which, in many inſtances, is a great deal more than the nominal rent covenanted to be paid to the landlord. But rackrent, in England, means no more than the ſum which the landlord receives; and, of courſe, it is only upon that ſum the farmer's profits are calculated. Again, in Scotland, labour being lower in value than in England, farmers are enabled to give a greater ſhare of the produce to the landlord as rent, than is practicable with Engliſh farmers. None of theſe things are noticed by our correſpondent in the way their importance merited; nor does he inform us, that, though rent is comparatively low in England, it has ſeldom been the criterion taken for eſtimating profits. According to our information, the farmer's property-tax has in many counties been calculated by the rule uſed for aſſeſſing the poor's-rate, without calling for a production of leaſes, or reſorting to revaluation. If this is the caſe, it need not excite ſurpriſe, that Engliſh farmers are not ſo much diſſatisfied with the Property tax as their Scottiſh brethren, upon whom the tax has been aſſeſſed according to the ſtrict letter of the act. Indeed, from all we can learn, the Property act has been adminiſtered ſo differently in the two countries, that, were the contrary not ſufficiently known, we would be led to infer that ſeparate acts had been paſſed by the Legiſlature for regulating and levying aſſeſſments.

That we are not without authority when making theſe remarks, will appear from the following extracts. The firſt is from a letter ſent by a gentleman in Yorkſhire, to whom we applied for information; and the ſecond from the minutes of a meeting of Scotch members of Parliament, held in London on the 25th April laſt.

'I am well convinced that the Property-tax act muſt operate with great ſeverity upon the Scotiſh tenantry, all their payments for land being in ſhape of rent; whereas the Engliſh tenantry, who in fact pay only a ſmall proportion of the actual rent *to the proprietor*, are by no means injured under the adminiſtration of the act. The ratio of taxation in fact is moderate, at leaſt hereabouts, twenty ſhillings per acre being the full average of rent on which the tax is calculated. If the rent returned is deemed too low by the commiſſioners, they have power to amend it; which they generally do by a reference to the poor's-rate aſſeſſment. Hence you will diſcover that the Engliſh tenantry have not the ſame reaſon for diſſatisfaction as their Scottiſh brethren; and it certainly is a ſerious reflection againſt your repreſentatives in Parliament, that they ſuffered ſuch an intolerable and unequal burden to be laid on, without giving the meaſure that degree of oppoſition which it merited.'

'At

'At an adjourned meeting of members of both Houſes of Parliament connected with Scotland, for conſidering of, and adopting the proper mode of obtaining relief to the farmers in Scotland from the preſent mode of aſſeſſing the Property-tax on them,—Mr Adam ſtated, that he had not been able to procure much particular information as to the mode of aſſeſſing the farmers Property-tax in England; but that he had learned generally, that in the counties of Surry, Bedford, Huntingdon, Cambridge, Norfolk and Eſſex, the farmers' Property-tax, with few exceptions, was aſſeſſed according to the aſſeſſment for the poor's-rate,—an aſſeſſment always made on a valuation conſiderably below the real one.

'Mr Rutherfurd ſtated, that, in the county of Kent, no attempt had been made to revalue any farm, the leaſe whereof was more than of ſeven years ſtanding; and that it ſeemed generally underſtood in England, that there was nothing compulſatory on the Commiſſioners to revalue farms after the firſt ſeven years of the leaſe.

'It was then propoſed to appoint a Committee to confer with the Chancellor of the Exchequer on the two following points.

'1. To get rid of the revaluation.

'2. To get the rate on the farmers reduced from 50 to 30 *per cent.* on their rents.

'Mr Solicitor-General Boyle, Mr Adam, and Mr Rutherfurd were appointed a Committee for this purpoſe, and were requeſted to have a meeting called again as ſoon as they ſhall have ſeen the Chancellor of the Exchequer, and report the reſult of their conference with him.'

Upon looking over the above remarks, we find that a part of our correſpondent's ſtatement has been overlooked; therefore, one or two words more are neceſſary. He notices the deduction of one ſhilling in the pound, where the preſumed profit is below 150 *per annum*, which deduction is certainly warranted by the act, though hitherto of ſmall advantage to the tenantry of Scotland. The reaſons why it has been of ſmall advantage are theſe: 1. In the arable diſtricts, the general rent of farms exceeds 300l., conſequently the occupier is not entitled to receive any deduction. 2. In every caſe within our knowledge, the full *maximum* duty of 10 *per cent.* has been aſſeſſed and levied, no matter what was the ſize of the farm, or how ſmall the amount of rent, unleſs the occupier had in the firſt inſtance intimated to the aſſeſſor, that he was not poſſeſſed of income from other ſources. This might be legal enough; but certainly was neither fair nor juſt conduct when applied to the gains and profits of a claſs, nine tenths of whom had not an opportunity of ſeeing the act, conſequently were unacquainted with the nature of its enactments.

We have already conſidered one half of rackrent as a ſum which

:h greatly exceeds the amount of profits from cultivating land cotland; but are unable to ſpeak with the like preciſion, whe- three fourths of rent in England deſerves to be characterized ıe ſame terms. In one thing, however, we are clear, namely, the half of profits in the one country is a much higher crite- than three fourths is in the other. Reaſons which ſupport this ıion are already urged; and we have only to add, that the a- ınt of poor's-rates in many pariſhes, more than compenſate the :rence between the two criterions adopted, independent of the ;s which might be laid on the cuſtomary clauſe in Engliſh leaſes, rein the occupier is taken bound to pay all parliamentary and ıchial taxes already impoſed, or to be impoſed. In a word, ıgh aſſeſſments may be as unequal in England as in Scot- , when applied to the caſes of individuals, it is impoſſible the evil of a fixed criterion can be felt with the like ſeve- in both countries. The ſyſtem of connexion in each, be- ıt proprietors and occupiers, is formed upon ſuch oppoſite ciples, while political cuſtoms and regulations are ſo vaſtly ordant, that the like hardſhips cannot be ſuſtained by occupiers and in England, when the Property-tax is aſſeſſed on them ac- ling to a hypothetical rule; as has been grievouſly felt, and lly complained of, by their brethren in this northern part of iſland.

efore concluding, we have to notice, that the paper which fol- s will ſhow the impropriety and impolicy of the Property-tax act very ſtriking manner. Indeed, it will be found to be a pear of fferent tree than the one we have been examining, and cannot to have great weight with every unprejudiced perſon, whoſe d is open to conviction, and capable of comprehending the injury ch agriculture, and thoſe concerned in carrying it on, muſt ive from a continuance of the preſent mode of aſſeſſing the in- e of farmers to the Property-tax.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

ughts concerning the Property-Tax, and on a New Plan for assessing Income.

THE immense wealth bestowed upon the inhabitants of this ıd, is certainly the means by which we are, at this time, ena- to support those armies and navies that are necessary for our nce; and it seems obvious, that the necessary expense of e armies and navies, ought to be defrayed by every individual member

member of the state, in proportion to the quantity of wealth which each of them respectively enjoy; or, in other words, in proportion to their respective annual incomes, arising from that portion of wealth.

This being the only just rule, by which the different orders of men in the state can be equally assessed for the support of government, and the general defence of the nation; it is plain that it cannot be applied, until the amount of each man's annual income is pretty correctly ascertained. It is from the want of this knowledge, and the consequent inequality in the rate of assessment among individuals living in the same neighbourhood, and in nearly the same situation with respect to their rank in the society, that all the attempts hitherto made to establish such a rule of taxation, have failed to give satisfaction.

The proper means of obtaining this important information, being therefore obviously necessary for the establishment of an equitable rule of taxation, I trust it will not be deemed impertinent in an obscure individual, to presume to submit his thoughts upon the subject, to the serious consideration of the public at large.

In the first *income act*, the different orders of men were required to give in a state of their annual income, from whatever sources it might arise, to the surveyor appointed for the district, and to verify the same by their oath before the commissioners, if required. This mode of ascertaining the annual income of the different orders of men in the society, opened a wide door for fraud and evasion, and held out a strong temptation to commit perjury; and the consequence was, that honest men gave in a fair state of their income, and paid the tax imposed upon them by the act, to the utmost extent; while unprincipled men, in the possession of much larger incomes, often paid a mere trifle, and, in very many cases, nothing at all.

After this income act had existed for several years, another act was passed, for the purpose of obtaining the same kind of revenue from the different orders of men in the state, under the title of a *property tax*. But, although the name was changed, the tax still continued, and must continue, to be levied upon each man's annual income, and not upon the amount of the permanent property which he possesses. But the language in which the will of the legislature was expressed in this *property act*, was so obscure and mysterious, in some places so contradictory, that it was altogether incomprehensible to those who were required to obey it. I have put the question to a great number of men in various situations in life, and even to many of our lawyers and legislators; but I have never

never yet met with a single person who even pretended to understand this law. In fact there is good cause to believe, that the person employed by the Minister to draw up the act, did not understand it himself. The difficulties which naturally occurred to the Commissioners appointed to carry the act into execution, from the obscurity of language in which it was expressed, were quickly removed in Scotland, by the ingenuity of a private individual belonging to the tax-office in Edinburgh; who took upon himself, probably with the knowledge and concurrence of the Crown lawyers, to publish what he termed an explanation of the act, together with directions to the Commissioners for carrying the same into execution. The Commissioners having adopted this explanation, proceeded without hesitation according to the rules therein prescribed; and, in this way, the mere opinion of a private individual was imposed upon the inhabitants of Scotland as law, and the very foundation of the constitution of our Government was thereby subverted. For it is, and must be, universally acknowledged as an unquestionable truth, that there is no other power in this kingdom, competent to make laws for the Government of the realm, or to explain, alter, amend, or repeal any law which has been enacted, but the King, Lords, and Commons in Parliament assembled. It seems highly probable, and we have indeed the best reason to believe, that some private individual assumed the same legislative power in England, by giving a similar explanation.

The language in which the act 1806 is expressed, renders it nearly as incomprehensible as the former one. But the evils which have arisen from the measure, have greatly increased. The Commissioners, by undertaking to execute a law not clearly understood by any one of them, have put it in the power of every surveyor to become a legislator. It is now of little consequence for a tenant to give in to the surveyor, a state of the rent which he pays to his landlord, or of the income arising from the possession of a farm. The surveyor regards none of these things. He assumes to himself the power of putting an ideal rent of his own upon every farm which has been possessed for seven years, equal to what he supposes it would let for in the public market: and, according to this arbitrary ideal rent, he states his assessment upon the tenant, without knowing, without regarding, whether the tenant can have any income from the farm at that rent or not. It is not easy to obtain redress from the Commissioners for this kind of extortion: all the satisfaction which farmers generally get is, to be told by the surveyor, if they are not satisfied with the rent which he has put upon the farm, they may give it up, and he will find another tenant.

In the several laws enacted for the purpose of obtaining an annual revenue for the defence of the kingdom, in proportion to the annual income of individuals, a rule is prescribed for assessing income arising from land, both upon the landlord and tenant, which it seems impossible for either the one or the other to evade; because the landlord is bound to deliver to the surveyor, or to the clerk of the Commissioners, a correct statement of the rents which he is entitled to receive from each of his tenants; and, by this general rule, the tenant is appointed to be assessed for one-half of the rent paid by him to his landlord, which proportion of the rent is assumed by the framers of the act, as the tenant's income, arising from the possession of the farm. This general rule, in so far as it affects the landlord, is certainly just and equitable; because the annual rents which he receives from his tenants for the use of his land, after deducting the public burdens to which these lands are liable, is clearly the real annual income which he derives from his land. But with respect to the tenantry in general throughout the kingdom, and particularly in Scotland, the general rule for assessing that class of men is most unequitable; and, if persisted in, will become absolutely ruinous to many individuals. If it was known to be true, that all the farms in the kingdom are at this time equally rented, in proportion to their extent, and the quality of the land, some specific proportion of the rent paid to the landlord might be assumed as a general rule for assessing farmers, somewhat nearly in proportion to their respective annual incomes. But it is most unquestionably true, that this is very far from being the present state of the country; and that no proportion of the rent which may be named, can be assumed as a general rule for assessing the income of this class of men.

There exists, at present, in Scotland, two causes, which have had the effect, for some years past, to render rents in that part of the kingdom, and consequently the tenants' income, arising from the possession of land, most astonishingly unequal.

About thirty or thirty-five years ago, a general spirit for the improvement of land began amongst the tenantry in Scotland; and, since that period, the improvement of that part of the kingdom, and consequently the quantity of its annual produce, has increased in a most wonderful manner. In consequence of this general spirit of improvement, tenants, in the possession of extensive tracts of ground near the beginning of that period, upon long leases, and who had a capital to enable them to carry on improvements, were enabled to realize large sums of money during the continuance of these leases. The effect of these improvements was an increase of rent to the landlord at the commencement of every succeeding lease. As the improvement of land must always be

radual and progreſſive, this increaſe of rent, if things had allowed to go on in their natural courſe, would have conti- to be gradual and progreſſive alſo, and almoſt in exact pro- on to the improvement of the ſoil. But this natural order ings was ſoon deranged, by a very iniquitous practice intro- d into the country about the beginning of the period allud-

fty years ago, the great landed proprietors in Scotland were ſt univerſally in the practice of doing all the buſineſs of eſtates themſelves, with the aſſiſtance of a land-ſteward or r, who reſided upon it. Theſe old proprietors were gene- perſonally acquainted with every tenant upon their eſtate. believed it to be their duty to watch over the conduct and viour of their tenants, and to beſtow rewards, or inflict pu- ments upon them, according to the propriety or impropriety of conduct; but many of the ſucceſſors of theſe old proprietors g ſuffered their minds to be corrupted, in that whirlpool of n and folly which wealth and luxury had introduced, and ps altogether unacquainted with buſineſs, the management eſtate naturally appeared an irkſome and oppreſſive burthen, h they were deſirous to be relieved from, ſo as they might en- heir wonted pleaſures and amuſements without interruption. ns in this unpleaſant ſituation, did not need to ſeek far to one of thoſe learned gentlemen belonging to the Court of n, called *clerks*, or *writers, to the ſignet*, who would readily ge to relieve them of every burthen attending the manage- of an eſtate. The faſhion of employing theſe learned gen- n as the managers of eſtates, ſeems to have ſpread very rapid- or there is perhaps not a ſingle nobleman's eſtate in Scotland, h is not at this time under their direction. But theſe learned emen being generally unacquainted with country buſineſs, of courſe, with the reciprocal duties which landlord and te- owe to each other, there is no wonder that they ſhould be l to err exceedingly in the management of eſtates put under care. Conceiving it to be their duty to get the higheſt rent tenants which can poſſibly be obtained, and being them- s totally ignorant of the real value of the different farms un- heir management, they were induced, from this ignorance, o ſave themſelves ſome trouble, to adviſe their employer to his farms into the public market, and ſet them to the higheſt r.

is method of ſetting farms, which was ſeldom if ever prac- in Scotland forty years ago, has ſpread ſo rapidly under the gement of theſe learned gentlemen, that there is, at this very few eſtates in Scotland into which they have not

introduced it. In this way, by letting farms to the higheſt bidder, a great difference has occurred between the annual income of theſe tenants, who are under this kind of management, and thoſe who are not; and this difference has been always increaſing, in proportion as the competition for the farms which came into the market increaſed.

The evil practice of bringing farms, like any other mercantile commodity, into the public market, opened a wide field for ſpeculation to men who had obtained any conſiderable portion of wealth in the farming buſineſs; and extenſive ſchemes of monopoly were, in conſequence, immediately formed by many of theſe men. It is obvious, also, that this monopolizing ſyſtem ſerved to increaſe the number of candidates; becauſe, though thereby diſpoſſeſſed of farms, having been bred to farming buſineſs only, they were unable to procure ſubſiſtence for themſelves and families in any other line. The number of candidates for every ſucceeding farm which came into the market, has, in conſequence of this monopoly, been continually increaſing; and this increaſing competition among farmers to obtain the poſſeſſion of a farm, has, within theſe four or five years paſt, enabled landlords to obtain from their tenants the promiſe, at leaſt, of greater rents than it is poſſible for them, in the preſent ſituation of the country, to pay out of the produce of their farms; and it is a well known fact, that many tenants in the ſouth of Scotland who took leaſes of farms three or four years ago, are at this time paying to their landlords from 100*l.* to 300*l.* a year out of their own pockets, more than they draw from the produce of the whole farm; beſides the expenſes of management, and the intereſt which they ought to receive upon the capital which they have inveſted in the farm.

From theſe things it is evident, that tenants reduced to this deplorable ſituation, by ſuch a diabolical method of letting farms, can have no income whatever ariſing from the poſſeſſion of them; and conſequently, to aſſeſs ſuch tenants in proportion to the one half of the extravagant rent promiſed to their landlords, is moſt unreaſonable and oppreſſive.

But there is another cauſe which ſtill remains to be mentioned, that has occaſioned, at this time, a very great diverſity in the incomes of tenants in Scotland, ariſing from the poſſeſſion of farms. It has been already obſerved, that great ſpeculations upon the improvement of land, have been entered into by intelligent farmers in Scotland, within theſe thirty years paſt. The great object of theſe ſpeculators was, to obtain the poſſeſſion of a farm, which appeared capable of improvement, and was, at the time, in an unimproved ſtate. For a farm of this deſcription,

scription, these men did not scruple to offer the landlord a greater rent than the old tenants conceived themselves able to pay, and even considerably more than the whole produce of the farm, in the situation in which it then was, could possibly afford to pay; depending upon the increased quantity of produce which they expected to obtain by their improvements when completed, to indemnify them, not only for this dead rent, which they paid to the landlord above what the land produced at the beginning of the lease, but also for the money which they proposed to lay out in the beginning of the lease for these improvements. These improving leases are seldom undertaken for a shorter period than twenty-one years.

A person who entered to a farm of this description twelve or fourteen years ago, who got all his expensive improvements completed, and the farm, by that means, brought into a full productive state, within the first eight or ten years of the lease, may be expected, at this time, to be drawing a very considerable revenue from it; and his annual income may be reasonably supposed to be much more than the one half, and perhaps considerably more than the whole rent which he pays to his landlord. In this case, therefore, the rule given in the Property-tax act, for assessing at one half of the rent paid to the landlord, is evidently too low. But, on the other hand, a person who only entered to a farm of this description two or three years ago, who has not yet got his farm brought into that productive state which will even enable him to pay his rent to the landlord, and who is, besides, expending even more than the rent annually out of his own pocket, for the purpose of completing the improvements upon his farm, cannot, at this time, and in the present situation of the farm, have any income at all arising from it; and, of consequence, the rule prescribed in the act for the assessment of tenants, when applied to this man, must be considered as unjust and inapplicable; nay, further, as calculated to obstruct the general improvement of the country, and, of course, the landlord's future prospects of increasing his revenue by these improvements. In this case, as well as in the one first mentioned, the landlord, so long as the farm remains in this situation, receives from his tenant the whole produce of it in name of rent; and, being assessed for that sum as his income, plainly pays all the tax both for himself and his tenant, which, in this situation of the farm, can be reasonably demanded from them under the name of Income tax.

Having shown that the present mode of assessing tenants, particularly in Scotland, on account of their income, is exceedingly unequal, and, in many cases, exceedingly oppressive; and that no proportion of the rent which can be named, can be assumed

with propriety as a general rule for assessing this class of men; and as there is too much reason to believe that this tax, as presently exacted from some other classes of men, is liable to the same objections; I shall, with your permission, proceed to submit a few thoughts concerning the best way of ascertaining the income of individuals, to the consideration of the public at large; and more particularly to the serious consideration of the different members of our legislative assemblies.

That it is altogether impossible for any two, or three, or even a dozen of men, acting as assessors under the act, in any county, to obtain a knowledge of the annual income of every individual person living within that county, will be generally admitted. It will, I presume, be also admitted, that assessors have at present no distinct rule prescribed to them for the assessment of individuals residing within their districts, in any case, that of landed proprietors excepted, where they are not pleased to admit of the return of income made by the different individuals; and that, in numerous instances, they are in the constant habit of making assessments according to their own will and pleasure. These assessors, therefore, in the exercise of this pretended power, have assumed to themselves an *arbitrary dominion over his Majesty's subjects*, which they ought not to possess, and which ought to be taken from them by a law containing more specific enactments.

The particular amount of any man's annual income, if he does not choose to give it himself, can only be ascertained by that local knowledge which his neighbours generally possess, of his situation and circumstances. If the plan which I have to propose shall be found adequate to the attainment of this important object, the great cause which has hitherto prevented a tax upon income from being generally acceptable to the whole kingdom, will be removed; and a foundation laid for the gradual consolidation of all the other revenue laws, into this simple tax: by which means, the public will be gradually relieved from that vexation and trouble, and from all those unnatural restraints which are the sure consequences of an immense number of revenue laws. The nation will also be gradually relieved from that enormous annual expense which it is at present subjected to, for the collection of these revenues.

As the particular amount of each man's income can only be obtained by that local knowledge which mankind generally have of their neighbours' situation and circumstances, the plan which ought to be adopted for obtaining this information, is, by the appointment of a proper number of qualified men in every district, to sit as a jury upon their neighbours, and deliver their

heir verdict upon oath, like any other jury, with respect to the particular income of each of their neighbours in that district. It cannot be supposed that the amount of each man's income can be precisely ascertained by this means; but it may certainly be ascertained as nearly as is necessary for the purpose of taxation, and much more correctly than it can possibly be in any other way. For example, in those districts where the annual income of the inhabitants arises almost entirely from the produce of land, a jury composed of intelligent farmers, who had a particular statement of the rents paid by each tenant to their respective landlords lying before them, would not find much difficulty in determining, with a sufficient degree of precision, the amount of each man's income arising from the occupation of a farm, after deducting the landlord's rent, and expenses of management.

In mercantile and manufacturing towns, merchants, manufacturers and tradesmen, have as perfect a local knowledge of the circumstances and situation of their neighbours, who are carrying on business in the same line with themselves, as farmers have of their neighbours' situation; and would be thereby enabled to ascertain their respective annual incomes also with a sufficient degree of accuracy for the purposes of taxation.

I would therefore propose, that each county in the kingdom should be divided by the Justices of the Peace within that county, into as many different districts, or subdivisions, as they may deem to be most proper, in the same manner as the different counties in Scotland were divided, for the purposes of executing the Small-debt act. I would also propose, that the Justices residing in each of these districts should be required, upon a certain day annually, to make up a roll of the names of all the inhabitants in that district thought to be properly qualified to sit in a jury, for the purpose of assessing their neighbours, their own names being also included; and deliver the same into the hands of the clerk of the peace for that district; that a jury should be chosen annually, by ballot, out of this roll in the clerk's hands; and that these men should be bound to take an oath, to be administered by the clerk, *that they will give in a faithful and true report to the Justices, to the best of their knowledge and belief, of the particular income of each individual person within their district, that comes under the description of those who are liable to be assessed under the Income-act.*

In large mercantile and manufacturing towns, where the merchants, manufacturers and tradesmen are numerous, it may be proper to chuse a separate jury from each of these three classes of men, for assessing that particular class of men who belong to these professions respectively.

If all the present revenue laws were repealed, and all taxes consolidated in the Income-tax; the common labourer and mechanic, being thereby enabled to purchase all the necessaries of life which are at present loaded with excise and customhouse duties, at perhaps a good deal less than one half of their present price, should in that case be charged with some moderate assessment in lieu of these duties, as an Income-tax. But, until these excise and customhouse laws are repealed, the lowest rate of taxable income ought perhaps to continue the same, or nearly the same as it now is.

It would be neceſſary to inſtruct the clerk of the peace in each diſtrict, to publiſh an advertiſement at all the church-doors within his diſtrict, or otherwiſe to cauſe a requiſition to be delivered by a conſtable to every perſon who may be deemed liable in the payment of Income-tax, requiring them, under a certain penalty, to deliver in to him, between and a certain day therein named, a ſtate of their groſs income for the year preceding, from whatever ſource it may have ariſen; the intereſt of money excepted; it being unneceſſary to ſtate this ſource of income, as the perſon who has borrowed the money, not being allowed any deduction from his income on that account, will no doubt take care to retain the tax upon the intereſt which he pays. In theſe returns, a particular ſtatement ſhould be made of the parochial and other taxes, and of all other expenſes which the law may authoriſe them to claim as deductions from their groſs income. And farmers and manufacturers ſhould alſo be required to ſtate, in theſe returns of the groſs amount of their income, the particular ſums which they may have expended upon each of the different improvements they may have made upon their farms or manufactures, in the erection of buildings or machinery for carrying on their buſineſs within that period, which they may propoſe to claim as a deduction from their groſs income for that year.

After the time appointed for giving in theſe returns to the clerk is elapſed, the magiſtrates of the diſtrict ſhould appoint him to iſſue ſummonſes to all thoſe whoſe names are contained in the roll in his hand, requiring them, under a certain penalty, to appear upon ſuch a day, and at ſuch a place as ſhall be therein named, for the purpoſe of being ballotted to ſerve upon the Jury. After the particular perſons who are to ſit as Jurymen for that year have been determined by ballot, and in the event that none of the juſtices ſhall have been ballotted to ſerve upon the Jury, one of their number ſhould be appointed by themſelves to preſide in the meeting, to direct the mode of procedure, to collect the votes, and keep order in the court. But this preſiding Juſtice, if he is not alſo a Juryman, ought not to be permitted to give any vote or opinion in any queſtion that may come before this Jury.

When

When the Jury has been ſworn in by the clerk, and have elected their chancellor or foreman, the returns made ſhould be laid before them; and they ſhould then proceed to conſider the ſame, and determine, by a majority of votes, the particular amount of each man's taxable income, and arrange them into their reſpective claſſes, according to the rule preſcribed by the act of Parliament; beginning with the loweſt taxable income; which ſhould be termed *Class First.*

Having gone through the whole in this way, and determined the particular amount of income for which each individual ought to be aſſeſſed, a roll ſhould be made out by the clerk, containing the names of all the perſons within the diſtrict which have been found liable to pay a tax upon their income, arranged under their reſpective claſſes, with the amount of the income for which this Jury have found each of them liable to be aſſeſſed. This roll, after each page of it has been ſigned by the chancellor and preſiding magiſtrate, and certified by the clerk, ſhould be tranſmitted by him to the general clerk of the peace for the county: and, ſo ſoon as all the returns from the different ſubdiviſions of the county have been received, the general clerk ſhould be directed to make up an abſtract of the whole, ſpecifying the number of names that are contained in each claſs in the whole county, and alſo the amount of the income for which each of theſe claſſes are liable to be aſſeſſed; and tranſmit this abſtract of the amount of the income for which the whole county is liable to be aſſeſſed, to the Secretary of State. When the Secretary has received returns from all the different counties in the kingdom, he ſhould then cauſe a general abſtract to be made up of the whole, ſpecifying the names of perſons contained in each claſs, and the amount of the income for which each of theſe claſſes are liable to be taxed.

When the Chancellor of the Exchequer, or Prime Miniſter for the time, comes to determine upon the ſums that it will be neceſſary for him to raiſe for the ſervice of the year, he will ſee in a few minutes, from the general abſtract in the hands of the Secretary of State, what rate per cent. upon the amount of the income of each of the different claſſes, will produce that ſum; and he has then only to go to Parliament and obtain its authority to levy that tax upon each man's income throughout the kingdom. The exact ſum propoſed to be raiſed, will be thereby obtained, without either increaſe or deduction.

As the clerks of the peace for the different ſubdiviſions in each county, will, by this plan, be ſubſtituted in place of the preſent aſſeſſors for theſe counties, and as they will be alſo the moſt proper perſons that can be employed as ſurveyors of aſſeſſed taxes in their reſpective ſubdiviſions, the ſalaries preſently allowed to theſe

aſſeſſors

aſſeſſors in each county ſhould be divided amongſt them, in proportion to the extent of their reſpective ſubdiviſions: and it ſeems to be alſo reaſonable, that they ſhould have likewiſe ſome additional remuneration for their trouble as clerks of the peace.

I ſhall not at preſent enter into the conſideration of the evils which the other revenue laws have brought upon the ſociety; the reſtraint which they have impoſed upon the natural liberty of the ſubject; the obſtructions which they oppoſe to the general improvement of the country; the trouble and vexation which they occaſion; and the direct tendency which they have to corrupt the morals of the people. Neither ſhall I at this time enter into the conſideration of the very great pecuniary advantages which the nation would obtain by conſolidating the duties impoſed by all theſe different revenue laws, in this ſimple tax upon income. Theſe things may probably be noticed afterwards.

There is little reaſon to doubt, that the plan now propoſed will not be very acceptable to thoſe gentlemen who are employed in the different revenue offices, becauſe it has a direct tendency to injure their pecuniary intereſts. On the contrary, it is highly probable that many learned arguments, and much ſophiſtical reaſoning may be employed to convince the public that it ought not to be adopted. Very likely, the plan will alſo be unacceptable to thoſe covetous men, who have, under the old ſyſtem, found an opportunity of evading the payment of their due proportion of taxes. But all thoſe who have found themſelves oppreſſed under the old ſyſtem, and all thoſe who are unbiaſſed by any pecuniary or ſelfiſh motive, and wiſh to ſee the ſupplies neceſſary for the ſupport of Government, and the general defence of the kingdom, fairly and equally proportioned upon all his Majeſty's ſubjects, in proportion to their reſpective annual income, may perhaps be of a very different opinion. And, ſeeing that every other plan which has hitherto been adopted for an equal diſtribution of the Income or Property-tax, has failed to produce the deſired effect, theſe people may perhaps be diſpoſed to think that one which promiſes ſo fairly to accompliſh this deſirable object, ought to have a trial.

I think it may be ſafely averred, that the execution of the Income act, according to the plan propoſed, will not be attended with nearly ſo much trouble to any county in the kingdom, as the execution of the militia laws do now occaſion. It may certainly be expected, that very many men will, at firſt, feel great reluctance to give judgment upon their neighbours' circumſtances; but a year or two will overcome this reluctance. Reaſonable, thinking, honeſt men, who perceive the advantages which the nation will obtain by the eſtabliſhment of a fair and equal mode of taxation, will engage in it with alacrity; and ſo will all thoſe

hoſe who have felt themſelves oppreſſed by the old ſyſtem, or who have ſeen neighbours perhaps in a higher ſituation than themſelves with reſpect to income, evading, in a great meaure, the payment of a tax to which they themſelves are ſubected. And although ſome conſiderable errors may be committed in the firſt outſet of the buſineſs,—if the plan is a good one and I am ſure it is formed upon the true plan of nature) it will e continually improving, and grow every year more and more owards perfection. I am yours, &c.

A LOVER OF TRUTH, AND A FRIEND TO THE STATE.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Diseases of Wheat, &c.

SIR,

THE unfavourable idea entertained by Sir John Sinclair, in the eſult of his inquiries reſpecting the cauſes of mildew and other liſeaſes in wheat, in ſo far as the ſame are attributed to the heavy nanuring, and full feeding, of the ground, occaſions me to trou- le you with this letter. At ſame time, I embrace the opportuni- y of correcting a few miſtakes in my letter to Sir John Sinclair, iven in laſt Number of your Magazine as an extract from the bove inquiries; ſome ſentences of which are totally unintelligible, whilſt others expreſs ſentiments quite different from thoſe I intend- d to communicate.

I ſhall, in the firſt place, notice theſe miſtakes. In p. 71. of Sir John's Inquiry, it is ſaid,—'Some were of opinion, that the dry weather before the commencement of the rains had made the crop ripen before the grain was filled; and indeed, the inferior quality of what was firſt cut from early parts of fields, where there was no want of moiſture, was found rather worſe than better.' The latter part of the ſentence ſhould have been,—'*Indeed, the inferior quality of what was firſt cut from early parts of fields afforded cauſe for the conjecture; but afterwards, when cutting where there had been no want of moiſture, it was found to be rather worſe than better.*' In ſame page, it is ſaid,—'but ſeldom if ever leaving viible and ſatisfactory marks of the means by which the injury was effected, either the tender ſhoots to be all over as if they had prouted;' whereas it ſhould have been,—'*But ſeldom or never without leaving viſible and ſatisfactory marks of the means by which he injury was effected, either the tender ſhoots appear to have been ut over as they ſprouted.*' *Could*, in another inſtance, has been ut for *ſhould*; as has *obſcurity* for *obſcurely*.

In the next place, I muſt offer one or two remarks on what is ated in the inquiries alluded to reſpecting manure and feed

work,

work, heavy manuring and full ſeeding being by Sir John conſidered as two of the cauſes of mildew. Perhaps doctrines more baneful to the intereſt of agriculture cannot be promulgated, than thoſe delivered by the worthy Baronet, when treating upon the two points under conſideration. It may juſtly be conſidered as a truism, that he who ſows ſparingly, will reap ſparingly; and whatever ideas may be entertained, in theory, reſpecting muck, it has, in practice, been invariably found the great deſideratum for rendering fields permanently fertile. Lime, marl, ſhelly ſand, and all calcareous ſubſtances, have powerful effects on their firſt application; but when repeated, unleſs accompanied with vegetable manure, prove but feeble enrichers of exhauſted ground; and accordingly, it is an object of the firſt importance with every practical farmer, to increaſe the quantity, and improve the quality of this moſt valuable article, as much as poſſible. As every eſſential good may be perverted to a bad purpoſe, there is no doubt, that exceſs in dung or ſeed has at times proved hurtful; but where one acre ſuffers from getting too much of either, an hundred acres ſuffer from receiving too little. It muſt be obvious to every attentive obſerver, that, were the manure, labour, and ſeed, which, in a large proportion of the country, are ſtretched over too great a breadth of ground, confined to two thirds, and, in many places, to one half, of the extent, the fields would be much more productive than they are; and it is owing to the over frugal manner in which manures of all ſorts are generally adminiſtered, that ſo many weak crops, or rather effigies of crops, appear, and lands revert ſo rapidly to their former unproductive ſtate.

As the diſorder which befel the wheat crop of laſt ſeaſon was uncommonly ſtriking and ſevere, it is no wonder that the feelings of true patriotiſm were rouſed, and every poſſible method tried to inveſtigate the cauſe of the evil, and to find out an antidote againſt its malignant attacks in future. In ſuch caſes, however, great caution is always requiſite, leſt, by endeavouring to avoid one evil, we fall into a greater. Thin, light crops are, without doubt, leſs liable to ſuffer by heavy rains and moiſt cloudy weather than weightier ones: but would it, on this account, be adviſeable to regulate our cultivation by ſuch a ſtandard? Certainly not; at any rate, ſo far as my obſervation went, the thin light crops of laſt ſeaſon did not eſcape more than the heavier ones. The diminutive heads on weak ſtalks, as well as the larger ones on ſtronger ſtalks, in parts of fields where the crop was thinner, were no better filled than where the crop was cloſe and weighty; a ſtriking inſtance of which occurred in one of my fields, of about fourteen acres, where, from variety of ſoils, and different preparations, both deſcriptions were conſpicuous. Eleven acres were ſown on the 16th and 17th

17th October, after potatoes and drilled beans; and three acres on the 22d and 23d February following, after turnips. Eight bushels of a particularly small variety of London seed was sown on about 2½ acres of the potatoe ground, and also seven bushels of Kentish seed on potatoe ground adjoining that sown with wheat from London; the remainder of the ground being seeded with Kentish wheat once sown in this country. The plants from the London seed brairded equally, and, as soon as they appeared above ground, fully satisfied me, that, through inattention of my servant, too much seed had been given. The crop, being obviously too thick, and screened on the west by a low hedgerow of trees, was lodged soon after shooting; and, as the head was short, small and soft, even when cut, I laid my account with a poor return, and gave up all thoughts of trying the produce as seed for next season. It was, however, carefully kept by itself, and thrashed out in February, when, to my astonishment, there were twenty-six bolls two firlots of marketable grain, and six firlots of inferior quality. The produce being so much above expectation, I was induced to sow a boll of it after turnips, as a further trial next season. The seven bushels that came from Kent being sown of a proper thickness, yielded stronger stems, and lodged less, than the former; but, though apparently a better crop, did not return so much by two bolls per acre; and as for the produce of the rest of the field, it came 3½ bolls short per acre, whether after potatoes or beans; that after beans being more soft and shrivelled than what was after potatoes, though it had the advantage of the deepest soil, which had been equally well dunged as the other parts in the preceding year. Indeed, the most gravelly, and thin parts of the soil, in every field which I inspected, uniformly produced the hardest head, and best filled grain; and is a strong proof of the little effect the drought had in promoting the malady, as well as of the little relief to be obtained by thin sowing, or withholding manure. In my field, the produce after turnips was better in quality, though less in quantity, than after potatoes, but fully more than after drilled beans.

The singular phenomenon of whole fields in particular districts being instantaneously deprived of vegetation, appears, from many circumstances, to have been occasioned by the electric fluid which the clouds at that period emitted in remarkable quantities; particularly when we reflect that no other means, hitherto experienced, was competent to that effect, except frost; and it is evident that frost could not have accomplished what took place, without manifest injury to, if not total destruction of, various other kinds of crops, especially potatoes, which, though liable to damage from even slight degrees of frost, escaped without the smallest blemish. As to the partial injury which the wheat crop in

in general experienced, it seems to have proceeded from an excess of unfavourable filling weather, as a continuation of easterly hazy fogs never fail to retard the filling process, at times partially to arrest conception and maturation, and to bring rust and a dusky hue on all plants not in vigorous growth, which afterwards become a prey to animals that take possession of them. Heavy showers have the same effect; and, even in moist cloudy weather, grain is never fully matured. These causes combined, continuing to operate for several weeks, as was the case last season, were surely fully sufficient to accomplish (excepting the mortal blow alluded to as proceeding from electricity) all that took place, without the aid of fungi, maggots, &c.; which seemingly were consequences, rather than causes of disease. Neither does it appear that much could be ascribed to the effects of putrid effluvia arising from the ground. However ingenious this theory may be, it is not quite consonant with the sound orthodox doctrines usually noted in the Farmer's Magazine. The probability rather is, that the meliorated state of the soil, from being moistened after a long period of warm weather, had yielded an excess of nutriment in a degree somewhat similar to what prevents the filling of grain growing on dunghills, or the sites of dunghills, as well as the rank tufts often seen in fields, neither of which ever fill perfectly. In all these cases, the impediment is obviously owing to excess of nourishment, as the grain is always better or worse filled, in proportion to the degree of luxuriance that appears. Besides, did the failure in these instances originate from pestilential vapour, how could the surrounding corns escape? And if the smoke that arises from the ground, when warmed and moistened, was possessed of deleterious powers, what would be the fate of tender braird in the months of May and June, when more of that vapour appears than at any other season of the year? Even the blotches, rust and fungi seen on exuberant foliage, seem as likely to be formed by the action of the atmosphere upon the exudings and perspiration of plants, as is observable upon glass during a severe frost, as from any vegetative principle drawing existence from plants. In the case of last season, much of the mischief has been ascribed to drought, from the crop being thereby affected before the commencement of the rains. Nothing, however, came within my observation, nor has taken place since, which warrants such a conclusion; the grain on the driest parts of all fields in this neighbourhood having been better filled than those on deep earthy soils. Oats suffer sooner, and more, by heat, than any other grain; and yet we find those raised on the driest grounds meal best.

A great degree of luxuriancy is always unfavourable to the filling of grain; as superabundant nutriment, by too highly fostering the

the ſtems and foliage, not only poſtpones the ſtage of filling, but retards the proceſs of the ſap or mucilage in its converſion into grain. Few ſeaſons have been more favourable to vegetation than the months of May and June laſt. Crops of all kinds throve in an uncommon manner; and at the end of July, when the rains began to fall, the heated ground became ſo meliorated by the moiſture, as to yield nutriment in no ſmall degree detrimental to the maturation of grain. This circumſtance, and the long continuance of moiſt unfavourable weather afterwards, were abundantly ſufficient, without the aid of putridity, to effect all that came to paſs. Beſides, the uninjured ſtate of moſt other plants at that period, tends greatly to confirm this opinion; for, had this ſuppoſed putrid quality exiſted to any extent in the atmoſphere, other plants, as well as corns, would have felt its baneful effects.

It is worthy of notice, that exceſſive luxuriance ſeldom proves advantageous to the crop; and that it is often promoted by a friableneſs in the ſoil, or a volatile quality in the manure,—though neither of them, nor even both combined, are adequate to the production of weighty crops,—while other preparations operate reverſely. Theory has too much influence in forming ſyſtems; and habit frequently confirms theſe ſyſtems, without attending to their bearings and conſequences. The long partiality ſhown in favour of clover lea, as a preparatory ſtep for a wheat crop, and the antipathy entertained againſt potatoes as a cleaning crop, are proofs that farmers are too often miſled by improper ſyſtems and incorrect opinions. A wheat crop after clover, eſpecially if the clover was ſown with a crop for which the land had not been ſummer-fallowed, rarely ſucceeds; and if it does ſucceed, the benefit gained may juſtly be reckoned inferior to what might have been obtained from taking a crop of oats; whilſt the ſoil will, in the latter caſe, be in a much more ſuperior condition. With regard to potatoes, I am glad to remark, from the communications to Sir John Sinclair, that, it appears, juſter notions are now prevalent as to the utility of this crop than formerly. Wheat after potatoes is found leſs liable to diſeaſe than after fallow or beans, and equally productive. The experience of half a century, every year of which I have ſown wheat after potatoes, enables me to ſpeak with preciſion in favour of that mode of culture, having rarely, if ever, obſerved, that, in following it, imperfect grain was obtained, whilſt, in four inſtances out of five, the produce was greater than procured in any other way. The ſtraw of all grain which ſucceeds potatoes, eſpecially that of wheat, is always peculiarly clean, ſtiff and tough, ſtanding the mill much better than what is raiſed in any other method; hence it is plain, that wheat, after potatoes, continues in a healthy ſtate, when other wheats are diſeaſed and debilitated;

debilitated; and, of courſe, the culture of potatoes muſt be viewed as one of the beſt preparations for wheat with which we are acquainted.

I have long regreted, that from potatoes not keeping over one ſeaſon, the culture of that valuable root ſhould have been leſs followed than other crops; but I flatter myſelf, that now, when unfavourable prejudices againſt them are wearing away, their cultivation will be conſiderably extended, not only as a preparatory ſtep for wheat, but alſo as food for horſes and cattle. Alongſt with ruta baga, I hope that potatoes will ſoon be generally uſed for ſupporting farm ſtock during the winter and ſpring months, to the great benefit of the animals, and the advantage of their owners.

Before I finiſh, allow me to ſtate, that the bad crop of wheat, in 1799, cauſed the woolly-eared variety almoſt to be entirely given up; ſince which, the ſmooth-chaffed ſorts have been generally uſed. I have doubts on the propriety of the change, becauſe the woolly-eared kind had long been in vogue, and was conſidered to yield the greateſt produce. The following fact perhaps merits ſome attention. A ſeed-merchant, in 1807, ſent me ſeven buſhels of Engliſh wheat, which was ſown on part of a nine acre field that lay at a diſtance from my reſidence. This field had not been inſpected during the foggy and rainy weather at the cloſe of laſt ſummer; but, when viewed afterwards, the part ſown with Engliſh wheat, which turned out to be of the woolly-eared variety, diſtinguiſhed itſelf at half a mile's diſtance, by preſenting a dark duſky appearance, the chaff being much blackened; but, notwithſtanding theſe circumſtances, the crop, when thraſhed, yielded plumper grain, with leſs refuſe, than what was obtained from the reſt of the field; which, after all, might, in ſome reſpect, be owwing to the change of ſeed. I am, yours, &c.

Mid-Lothian, 1809. T. S. S.

REMARKS BY THE CONDUCTOR.

With much respect for our worthy friend Mr T. S. S., whose sentiments on Agriculture rarely differ from those uniformly maintained in this work, we are in duty bound to notice one or two passages in the above interesting and valuable communication; thinking, that when making them, his wonted consideration was asleep, and, of course, that our good friend had neglected to estimate the bearings and consequences of what he stated. In the first place, we must allude to his comments on what we lately urged respecting the causes of the calamity which affected the wheat crop of last season. That unfortunate calamity we always viewed as produced by atmospherical influence; and, in particular, we considered putrid effluvia, or pestilential vapour, as the chief, though not the

the only agent of the mischief so widely and extensively sustained. It must be confessed that we do not observe any thing advanced by Mr T. S. S. much calculated to produce a change of our sentiments. He, indeed, mentions another agent of mischief, namely, electrical fluid; and on this point we are at one with him, because the air, when filled with electrical fluid, is never in a healthy state: But when an excess of nutriment is assigned as a cause of failure, we feel an inclination to shake our head, and crave leave to remind our good friend, that the period was arrived when the growth of the parent plant had ceased, and that the young and tender grain needed only mild and kindly weather to maturate and bring it to perfection. Without reflecting upon these things, our good friend argues the point as if wheat plants were capable of growing for ever; else, why does he assign excess of food to the roots and fibres, as the cause of mortality to the grain, deposited in the cups of the ear; which is neither more nor less than saying, that the crop was killed by a surfeit. Again he supposes, if excessive heat, when succeeded by excessive moisture, produced pestilential vapour, that other grains could not have escaped. That other grains suffered, though not so severely as wheat, is well known. Our good friend also supposes, if vapour or effluvia possesses deleterious powers, that the young braird of grain would be cut off in May and June, when more of that vapour appears, than at any other period of the season. To this we answer, That vapour produced in May or June, cannot have the same effect with that produced in July or August, because the heat is not then so great; consequently, when succeeded by heavy rains, the atmosphere cannot possibly be so much contaminated. But without laying any stress on this point, it is maintained, that though the crop, when young, may not receive injury from putrid effluvia (perhaps, on the contrary, it is thereby much benefited), it will always in a greater or lesser degree sustain injury, if the atmosphere is filled with such vapour, when the grain is in an embryo state; and that the extent of the injury will be regulated by the age or strength of the young grain, and the length of time in which the atmosphere continues sickly and unhealthy. The truth of what is maintained, was fully confirmed by what happened last season to the wheat crop; every field in the eastern counties of Scotland, those on the sea-shore and upland districts excepted, having suffered in one respect or other, whilst fields on the shore, where the heat was moderated by sea-breezes, were very little affected. Even wheats in the uplands were fully as good as usual. Now, if electrical fluid and excess of nutriment occasioned the failure, unfortunately now too well ascertained, how comes it about that the influence of these causes

was not felt as decisively upon the sea-shore as in the internal districts? That they were not so decisively felt, is well known to every man who has attended public markets; and can only be accounted for, by a reference to the cause condescended upon in this and former papers. After all, as the disease which affected wheat last year was of an abstruse nature, it is highly probable that more agents than one were concerned; and this may be admitted, without impugning, in the slightest manner, the opinions given by us on the subject. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Culture of Sea-Kail—and on the Stake-fishing in India.

SIR, *Forfarshire, 11th April,* 1809.

THE intimate connexion between the *Field* and the *Garden*, renders your Farmer's Magazine a proper channel for conveying to your numerous readers useful, and, I am sure, acceptable information, concerning Horticulture.

The following little piece of intelligence may be of use. The species of Colworts called *Sea-Kail*, is becoming a general article of cultivation in gardens all over the island; and no wonder. It is an agreeable substitute for asparagus, and sooner ripe for our tables, by a month or six weeks. If permitted to grow in the open air, it would be green and unfit for use. It requires being *blanched* like celery. The following account of the most proper culture may be beneficial to your readers.

The seed is to be sown in the month of April, in drills, on a good light dry soil: as the plants rise, thin them, and keep them clean. The first winter earth them up, to protect them from the frost; the following summer, thin them to about eighteen inches distance, leaving the best plants. At Christmas, take away the decayed leaves, and cover up each plant with a large deep pan, or flower-pot, upon which lay a quantity of the leaves of trees, to keep off the frost, and create heat to the plants. Litter or stable dung is sometimes used instead of leaves, but is apt to give the plants a rank taste. In the following month of April, the pots will be quite full of fine tender blanched shoots, which may be cut over by the ground (but not too near) and the stumps covered up again for a second crop. This may be repeated with the same plants two or three times during the spring, before the plants are left for summer's growth. With this treatment the Sea-Kail, if sufficiently boiled in *two waters*, will be found equal to any asparagus or brocoli, and may be eaten with butter, or butter and vinegar, and pepper, as may suit the taste. The plant being a perennial one, will last for any length of time with proper culture

The

The above mode is the one at present successfully practised by his Majesty's gardener at Kensington.

Allow me now to furnish you with some information on another subject.

A gentleman long resident in the East Indies, and of established veracity, informs me, that the art of catching fish of all kinds by means of stake-nets, has been long known there, and practised more extensively than with us. At Surat, he says, he observed stake-nets set in the open sea, a league and further from land, and in thirteen or fourteen fathom water. The fishers, in the spring, provide stakes of the proper length, by joining teakwood trees to each other, and pointing them with iron, or hardening them by fire. The stakes are, at high water, let down to the bottom; a rope is laid over their upper end; the rope is fastened to two heavy loaded boats, one on each side of the stake; when the sea ebbs, the weight of the boats forces down the pointed stakes deep in the sand; nets are fastened between these stakes, and drawn up occasionally, with fish of every kind caught in them. Before the approach of the tempestuous season, the stakes are drawn up, and carried to land. They are pulled up by inverting the manner of fastening them; buoyant boats are fastened to them at low water, and as the tide rises, the boats rise also, and pull up the stakes. I see no reason to doubt of this method of fishing being as practicable in our seas as in the East Indies. We have many banks at sea shallower than fourteen fathom, and the shallower the better. Sandbanks are most frequented by fishes, probably on account of the worms bred in them. The high price of beef and mutton, has also raised the value, and increased the demand for fish; and offers great encouragement for trying new experiments to bring more to market. DOMESTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Mid-Lothian, 8th May,* 1809.

I HEAR that a practice prevails in your county, which I believe is singular. Your mowsters, who cut hay, do it on day's-wages only, and will not work by the acre; while, at same time, you complain with your neighbours of a scarcity of hands. My best advice to make hands plenty, is to cut by the acre only; for, in that way, little more than one half the number will do what the whole do at present. This was long the only kind of country business ever done by the piece; now, it seems, to be almost the only thing done on day's-wages. I recollect, that one acre was a general task for a man per day, when taken by the acre; now about one half, when they work by the day. It is reported, too,

that in the parish where you reside, the labourers have been shortening the day to nine hours, while their wages were rising. This should be remedied, till we have security for their working as they do by the piece. Beware of hurtful innovation. I am, &c.

A FARMER.

NOTE.

WE believe that farmers resorted, in the first instance, to the plan of cutting hay by the day, in order to have the work well performed, which was not the case when done at a fixed price per acre. Now, as the difference betwixt good and bad cutting will do much more than compensate the additional expense of cutting by the day, we cannot recommend a resort to the antient practice.

If our correspondent means ploughmen, when he speaks of labourers having reduced their hours of labour, we must consider him to be in an error, as horses are wrought nine hours *in the field*, when the season will allow it; which, added to the time required for feeding, dressing, and cleaning the stables, &c. will make the day's work ten hours at least. If he means labourers hired by the day, perhaps he is not wide of the truth; but, when it is recollected, that people of this description generally reside in the neighbouring villages, and spend a good deal of time in coming to and going from their work, the number of hours may seem sufficient. If labourers would only employ themselves busily when at work, the hours of employment are not to be found fault with.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Improving Leases.

SIR,

I LAY it down as a maxim, whenever I see the proprietors of great estates advertising to let their lands on improving leases, that agriculture is in a thriving condition; and, if this maxim be a just one, the state of farming in Scotland has not, at any period, been more prosperous than at present. In the course of the last nine months, several of the largest estates in Scotland have been advertised to be let on improving leases; and in all of them encouragement has been held out to tenants of skill and capital, particularly from the South country. Among these are the following properties, viz.

1*st*, The great estate of Sutherland, belonging to the Marquis and Marchioness of Stafford, who appear to be very anxious for the improvement of their extensive and valuable property, and have promised encouragement to improving tenants. Upon this estate, there is at present carrying on a new road along the eastern

ern coast, being a continuation of the plan projected by Government for making roads in the Highlands of Scotland; and many thousand yards of dikes are proposed to be built, and of ditches to be casten, in the course of the ensuing summer. These improvements will, in the mean time, give bread to many industrious labourers, and will ultimately greatly benefit the property. The Marquis and Marchioness were upon the spot for several months last season, and gave directions about these improvements in person.

2dly, Another estate, lying at no great distance, is that of Coigach, on the western coast of Ross-shire, belonging to Edward Hay Mackenzie of Newhall, Esquire, on which he proposes to give what encouragement to good tenants can be wished for; being particularly desirous of introducing good farming and the proper management of sheep, into a district of the country where they have been hitherto little known.

3dly, The third instance is that of the estate of Brahan, in the same county of Ross, the property of Lord Seaforth, who advertises, that he is disposed to give every encouragement to improving tenants. The land to be let is said to be fit for turnips, and every sort of improved husbandry; and from Lord Seaforth's known character for public spirit, and his anxiety to meliorate his estate, there is little reason to apprehend but that the encouragement will be of the most liberal kind.

4thly, A fourth great estate is that of Lord Macdonald in the island of Skye, which is said to be, in different parts of it, equally calculated for tillage-farming and for grazing; and for the improvement of which, his Lordship offers liberal encouragement to good tenants. It is to be observed, that two great new roads are projected, and are proposed to be immediately carried forward through the island, where, it is believed, good roads have not been seen before; and it is now also fixed, that a new road leading from Inverness to the sea next to the island, is to be carried on in the course of the ensuing summer, which will facilitate the communication with the continent, and the whole of the neighbouring islands, in such a way as has not existed before.

5thly, Sir James Grant of Grant, Bart. has advertised his great estates of Urquhart and Abernethy, both in Inverness-shire, to be let on improving leases to substantial and industrious tenants; and has notified, that he is disposed to give every necessary amelioration to such: and, from the excellent character and well-known patriotism of Sir James Grant, no one will doubt the fulfilment of his promises. Sir James states, that he is to prescribe rules to his tenants for the management of their farms, which he

has got printed, and is to deliver along with their leases; and although this is a precaution that would not be either necessary or recommendatory with the farmers in East Lothian, Berwick, or Roxburghshires, yet it may be very proper and highly commendable in the present state of farming in Inverness-shire.

6*thly*, Another great estate to be let is that of Arisaig, lying in the western district of the same county of Inverness, belonging to Mr Macdonald of Clanronald, consisting of excellent grazings in the vicinity of the Caledonian Canal; and as those grazings are said to be particularly calculated for sheep-stock, there is every reason to conclude, that they will become an object to stormasters in that line of farming speculation.

7*thly*, The next estate I shall notice is that of Gordonston in Morayshire, the property of Sir William Gordon Cumming of Altyre and Gordonston, Bart., on which great encouragement is held out to tenants of capital, skill and enterprize; and the lands are proposed to be divided into such portions as may suit tenants of every description. This estate has been surveyed by Dr Coventry, Professor of Agriculture in the University of Edinburgh, and his opinion taken as to the most proper plan of laying it out; and every thing that is proper is to be expected from the opinion of so excellent a judge of land.

8*thly*, Another estate advertised to be let is that of Innercauld, belonging to the late Captain and Mrs Ross Farquharson of Innercauld, lying in the higher parts of the counties of Perth and Aberdeen. Mr Farquharson said, that he was to divide his estate into such farms as might be of a suitable size; and as the lands are chiefly calculated for sheep-pastures, he was disposed to give proper encouragement to stock-farmers from the South country. The building of comfortable houses, and such subdivision of dikes as may be necessary to render the farms commodious, is always understood to be included in what is said to be encouragement to tenants; and the managers on the estate, since Captain Ross Farquharson's death, say that they are to follow out his plans. It must be an encouragement to intending offerers to know, that the laying out of this estate is under the charge of Mr Brown of Linkwood, whose talents in that line are sufficiently known and established.

9*thly*, The estate of Lochnell, belonging to Lieutenant-General Campbell, lying on the banks of Loch Etive in Argyleshire, is the next that shall be mentioned at present. General Campbell says, that there are good farm-houses already built on this part of his estate, and that he proposes to build such dikes as may be wanted. Like most of the other great Highland estates in that county, these farms are proposed to be let as sheep-walks.

10*thly*,

10*thly*, The last property that I shall take notice of at this time, is the estate of Belmount, in the eastern district of Perthshire, which belongs to the Honourable Mr Wortley Stewart of Rosehaugh, where great encouragement is also held out to good and substantial tenants. This estate, lying in a part of the country where good farming is well understood, there is little doubt but that the system to be introduced under Mr Stewart's patronage may approach to perfection.

From the foregoing enumeration, it appears that several of the largest properties in the Highlands are at present to be let, and that the proprietors are disposed to give suitable encouragement to tenants who shall take them. It is true that offers are wished to be made for the farms; and, notwithstanding of all the objections that have been stated to this mode of letting land, it does not occur how the plan can be quarrelled with. I have been induced to mention these particulars, because I conceive that your Magazine is more read by common farmers than the newspapers. Some years ago, when the Earl of Galloway's estate of Baldoon in Wigtonshire was advertised to be let by auction on improving leases, particular notice was taken of the set, at different times, in the Farmer's Magazine; therefore now, when a number of the largest estates in Scotland are proposed to be let, it is proper that they should also be noticed.

To me these advertisements form a subject of pleasant reflection; as I conclude, from the terms in which they are couched, that the proprietors of the great estates in the Highlands of Scotland are really become anxious for their improvement, and disposed to give every encouragement for effectuating this object. And however chimerical the prospect may appear, of great improvements soon taking place in the Highlands or Islands, we have actually recent instances of the fact. Within the last 25 or 30 years, we have seen the judicious and spirited exertions of Mr Campbell of Shawfield bring about the greatest and most successful improvements in the island of Ilay; those of Mr MacNeil of Colonsay have had the same effect in that island; and more lately, those of Mr Macdonald of Ulva have also had the like effect.

As you properly observe, in the history of Scotish agriculture given in last Number, the Highlands of Scotland are at this time undergoing the same change that the Lowlands formerly underwent; that is, good farmers, from the south of Scotland, are introducing into the north a system of improved agriculture, as the soldiers of Oliver Cromwell did into the south, between the years 1650 and 1660; and in the course of half a century, the effects may probably be the same. With the assistance of time, which I

understand is in abundance, and enclosing, and good tillage, and good woods, I would ask, Why may not Lord MacDonald introduce into the island of Skye as good a system of agriculture as Mr Campbell of Shawfield, with the same materials, has introduced into the island of Ilay? the soil and climate being supposed to be nearly the same.

But it is not in the Highlands only that we see farms advertised, and farmers from the south of Scotland invited to settle on them; but also farms in different parts of England and Wales are advertised in the Scots newspapers; and the most flattering conditions are held out to induce Scotch farmers to take them in lease. Indeed, we know that Scotch farmers have of late become famous in England; and that one of these, who formerly farmed in the neighbourhood of Edinburgh, now actually possesses a very large farm in the neighbourhood of London. Even Scotch farm-servants are not unfrequently brought to England; and we know certainly, that an illustrious and patriotic Scotch Nobleman, a few years ago, brought up from East Lothian, a farm-servant, whom he placed upon his farm at Caenwood, 5 miles from London, with his ploughs, harrows, carts, and other farming implements, brought from, and such as he was accustomed to work with, in his native country; and that this man exhibited, to the wondering farmers around him, a plough held by himself, and drawn by two horses; while they were ploughing in the next field, with a clumsy plough drawn by four horses, held by one man, and the horses conducted by another man as a driver. We know also, that a gentleman having some years ago taken a farm not far from Brighton, got Scotch servants to manage it entirely, after the most approved mode of Scotish husbandry, with Scotish implements of every sort.

These instances are sufficient to show in what estimation Scotish agriculture is held in England, and how much farmers and farm-servants, acquainted with the approved modes of farming practised in that country, are prized here. How different was the situation of matters only 50 years ago, when farm-servants were brought from England to teach Scotchmen the most simple operations! Whether the philosophical and chemical principles of agriculture are best understood in Scotland or England, I do not take it upon me decidedly to determine; but from there being an established Professor of Agriculture in Edinburgh, whose talents, science and skill in the art are universally acknowledged, and from the number of able chemists in Scotland, although none of them may perhaps equal the well-earned reputation of Mr Davy, I should be disposed, without any undue degree of national prejudice, to give the preference to the latter country.

Before

Before closing this short communication, permit me to say a few words on another topic, intimately connected with it. Besides the Board of Agriculture, we have many Agricultural Societies both in England and Scotland; but few of their Presidents are so active as Sir John Sinclair, and Mr Curwen, President of the Workington Farming Society, or we should know more of their proceedings. It is well known, that the indefatigable President of the Board of Agriculture is never-ceasing in his endeavours to promote his favourite art; and Mr Curwen seems to be equally assiduous in forwarding the purposes of the Society of which he is at the head. The last Number of the Magazine shows how zealous he is in bringing to public view the exertions of almost every individual within the bounds of his patriotic Association; and I hold it an undeniable truth, that every Gentleman and Farmer mentioned in his Report, will be more stimulated to proceed in his improvements, by having his name thus publicly brought forward, as an assiduous, spirited and successful cultivator, than if Mr Curwen had wrote fifty pages of scientific conjecture about the food of plants, or chemical discussion about the powers of oxygen in promoting their growth. Not but that such investigations are extremely important in a work purely scientific; but not so in detailing the practical labours of actual improving agriculturists.

I have no doubt that the improvements of many of the Gentlemen and Farmers in other counties are equally extensive, and perhaps considerably more important than those of the Gentlemen of Cumberland and Westmoreland, though they have not been brought forward in the same way. I am, Sir, yours, &c.

AMICUS SCOTIÆ.

London, 12th May, 1809.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On making Butter.

SIR,

I HAVE just been reading the 29th Number of your Magazine, and find *Betty Butter* has given you, in p. 60, an account of the method of salting butter in Banffshire. But being certain, that were the same mode to be followed in this county, we could not expect sale for our butter, since by the adoption of Betty's plan it could never be made to acquire that sweet and mild taste so much run upon by the families in Edinburgh, Glasgow, and those in the neighbourhood of these cities, who have received their butter from my dairy for near 20 years; I therefore take the liberty of sending you a short account of my method of salting

ing it; and may add, that some of the most honourable and respectable families in the nation, who are regularly supplied by me for their table, unanimously declare they get no butter so sweet as mine.

I however acknowledge, that I have not the same local advantages with Betty Butter as to grass; as I think that fine old grass, by a river side, must be preferable to mine, which is never above three or four years old, and often but one or two; the soil being also of a thin moorish nature, upon a bottom of cold blue till. However, with all these disadvantages, I last year sold my butter at 20s. per stone to my old customers in the above-mentioned places; and no person complained of the price; but several now complain that they have got too little of it, although I sold upwards of 60 tron stones.

My cows are milked at eight in the morning and at eight in the evening; and the number kept is from 10 to 12. Each cow's milk is seithed, either by itself, into a dish of wood, or two put together, according to the size of the dish. As soon as milked, it is set upon shelves of wood in the dairy or milkhouse, where it stands in general as follows, viz. the evening milk 34 hours, and the morning milk 22 hours; when the cream is skimmed off, and put into a vessel which holds one week's cream; and the milk is then made into cheese, which sells from 6s. to 7s. per stone. The churn is something like Betty Butter's, being a large barrel, which stands upon a frame made for the purpose; the inside work being driven round with a handle, the same as a pair of common fanners. The butter is made generally once a week; and in the morning previous to that operation, the churn is filled with boiling water, when the inside work is driven a few times round, and then the opening side of the churn is turned down, to let it out, the work being kept going round till the water be completely discharged, in order to throw out any sand or dust that might fall to the bottom, if the water was allowed to settle and run out of itself. The cream vessel is then brought, and the cream put into the churn, where it is wrought till the butter is separated from the milk; when it is taken out into a clean vessel, and the milk well wrought out of it. A corn sickle is then drawn through the butter, several crossways, in order to take out any hairs that may remain in it; and if any other motes appear, they are also taken out. This part of the work is generally done with the butter among clean spring water, as the water keeps it from turning soft, and washes away any milk that may remain.

The butter is then weighed; and for every stone, 10 ounces of salt are taken, (after having all the motes carefully picked out) and mixed with it. The salting process is carefully performed with

with the hand; as I have always found, that if salt is not properly mixed and incorporated with the butter, at the time of salting, it never keeps so well. I am very particular in this part of the work, the salt being weighed with the same weight the butter is weighed with. In May and June, each stone of butter will take one ounce of salt more; and after the middle of August, it takes one less than the above-mentioned quantity. The butter thus salted is put into a clean well-seasoned kit, and a handful of salt shaken on the top, which keeps it from turning mouldy, or winding, till next week, when the butter is again made as above, and put into the same kit, on the top of what was put in the week before, without stirring it, and a handful of salt shaken upon the top. The same process is continued weekly till the kit is full; after which it is covered up, and set aside till my customer sends for it. It may be proper, however, to examine the kit occasionally, to see that it does not let out the pickle; as butter standing without pickle soon spoils. Indeed, butter salted in this way does not require pickle poured on it, unless the kit is defective.

I never use saltpetre, since butter made as above always retains the same sweet taste till used, which generally happens within twelve months after it is made. But as B. B. does not mention her reasons for putting so large a quantity of salt, along with about half as much saltpetre as is necessary to keep the butter without any salt at all, I will say nothing about it further, than that, if the quantity I have stated be properly mixed with the butter, it is sufficient.

If you think the above worthy of a corner in your valuable publication, by giving it (either in whole or with correction) you will thereby afford your numerous readers an opportunity, before the butter season commences, of seeing the above recipe; and they can choose any of the two they like best. I am, yours, &c.

Dumbartonshire, 1807. M. F.

P. S. I notice that your Eddlestone friends think thirlage to mills a hinderance to improvements; and so do I. But as I have a process at present, in terms of the act of Parliament, to come before a jury at Dunbarton in a few weeks, for the commutation of thirlage of a farm which I have taken a long lease of, I will not enter into any thing upon that subject, further, than that I think your correspondent A. B., page 20th of Number 29th of your Magazine, is wrong in justifying the jury for giving the full value of all multures, dues and services, without making the least deduction whatever, unless they still allow that the miller is to be bound to work and grind, if required by the possessors of the lands

lands so freed, without any payment, the same number of bolls of grain yearly which they themselves have fixed an annual payment for, from the possessors of the lands freed from said mill; as, otherwise, the possessor will be both paying for the holding up of a mill, and grinding of his grain, twice, if he carries it to the mill; and if he does not carry his grain to the mill, the miller may work the mill with his own grain, without giving much heed how he uses the machinery; well knowing, that he not only has his own wages already paid, but, when his mill-stones or mill-leads fail, he has no more ado but apply to the barony; it making no odds whether any of them have already paid for the upholding of these things or not, since they are to be paid for again, without having any method left them of getting redress. I shall just add, that I know of six different instances of processes on entailed estates being settled by a jury; and neither the upholding of the mill, nor the bannock-meal, or knaveship as it is in some parts called, were considered to be due.

M. F.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A New Plan for sowing Turnips.

SIR,

A METHOD of sowing turnips suggested itself to me last season; but, though I found it to answer my expectation, yet, as it was a single experiment, I only communicate it to the public, as I have already done to some of my neighbours, as deserving a further trial.

I took one pound weight of best globe turnip-seed, which I mixed among two pounds of common tar, stirring the mass till the whole seed appeared regularly mixed with it. The mixture was then put into a watering-pan, all the holes being covered, except one, made large enough to allow a seed covered with tar to run out, dropped along the top of the drill, and covered by a light roller. The day being warm, the tar ran freely; and the seed showed a more regular braird than I had ever witnessed from any machine whatever.

Turnip seed, anointed with tar, will not be apt to receive damage either from hot or wet weather; and I am hopeful the practice may prove an insurance against the depredations of the grub and other enemies of that valuable root. If found to answer, a proper machine for sowing the seed may be suggested by and by.

Yours, &c.

BRANCH

BRANCH II.

AGRICULTURAL INTELLIGENCE.

THE weather, through the past quarter, has constantly gone into extremes; and the cold, in one part of it, was not more severe than the after heat was uncommonly ardent. The beginning of March was not unfavourable to vegetation, which caused wheats and grasses to assume a growing aspect; but the latter part of that month, the whole of April, and the first ten days of May, were steadily cold,—often intense frost, accompanied with snow showers; which completely checked vegetation, and caused the country to appear in the sable dress of winter. From the 10th to the 28th May most favourable weather prevailed; and the fields, all at once, were animated with glowing verdure. A more striking, rapid, and general change in appearance, was perhaps never known; all our accounts concurring in this particular. A great alteration, however, took place on the 29th, which still continues. For some days past, the weather has been cold and stormy, accompanied with snow and heavy rains; from which circumstances serious evil may be dreaded.

Though the weather, to the 10th of May, was hostile to vegetation, yet it answered extremely well for labouring the ground; furnishing, perhaps, better opportunities of carrying on Spring work succesfully, than usually experienced in this country. As the earth was rarely completely wet, the growing crops stood the cold winds much better than could have been expected; and, being deposited in a dry bed, which had been well prepared, were enabled to push off with advantage when genial weather came to their assistance. It remains to be seen, whither the check given this week to their progress, will ultimately be attended with much injury. This depends greatly upon the length of time that the present adverse weather may continue; therefore speculation upon it is superfluous.

Grain markets have fluctuated considerably, chiefly owing to the prospect of matters being accommodated with the American States. In Scotland, it is supposed that the stock in hand does not exceed what will be wanted till the current crop is reaped; but Ireland is presumed to contain sources of supply which will not be soon exhausted. In fact, were Irish agriculture sufficiently encouraged, that country might be rendered the storehouse of the empire. That a great deal has been done by the patriotic societies there, and even by Government, we willingly acknowledge; but much remains to be executed, before the resources of that fertile island can be fully brought into action. Perhaps, a deficiency of capital stock amongst agriculturists, may be considered as one of the leading obstacles to perfect husbandry; but other obstacles are also in the way, which must be removed before the art of agriculture can reach the summit of perfection. The tythe-system, of itself, is capable to impede improvement;

improvement; and why that system should not be changed, we have not hitherto learned. It is plain, that till tythes, either in England or Ireland, are paid by landlords, the country will not be improved; and, were the slightest doubt remaining on that head, a reference to the situation of Scotland would completely do away every objection.

Live stock of all descriptions have lately advanced in price; and there is reason to suppose that a fall will not soon take place. Indeed, the taste of the public for butcher meat seems to increase; of course, the increased demand must be attended with the usual consequences. Were British prosperity to retrograde—were trade and manufactures to languish and decline—or were any of the sources of wealth to be dried up, then it might be expected that butcher meat would fall in value, and that the people would be obliged to put up with food of a different description; but, so long as the country continues in a prosperous state, so long will the demand for butcher meat remain unabated; and as wealth increases with the middle and lower ranks, so will their inclination to be fed with butcher meat increase also. The price of butcher meat, in fact, is a true barometer for ascertaining the prosperity of a country, whose inhabitants have a predilection for that sort of food.

We understand, with satisfaction, that the Essays of Dr Rennie at Kilsyth, on the nature and properties of peat-moss, and the economical purposes to which it may be applied, are preparing for the press, and will speedily be published. It is one of the fortunate circumstances of the present day, that men of science and observation are more and more turning their attention to researches connected with the improvement of the country and the welfare of society; which furnishes a flattering prospect of national prosperity. Formerly, men of science thought such objects as this undeserving of notice; and either remained in a state of indolence, or devoted their time and talents to the investigation of matters confessedly of less importance to the benefit of mankind. No doubt can be entertained, but that the public will appretiate the endeavours of these gentlemen to enlighten and instruct them, in a suitable manner; as, by acting in this way, the strongest encouragement is held out to others for investigating subjects of the most abstruse nature. Dr Rennie's Essays are to be published by subscription; and there is reason to expect that a numerous list of subscribers will grace a work which treats of subjects acknowledged on all hands to be imperfectly understood, though of the first importance to the great body of British agriculturists.

The farming interest of Scotland have, of late, been assiduously employed in endeavouring to procure relief from the hardships which fall upon their body, in consequence of the present method of assessing them under the Property-tax act. Petitions from many counties have been submitted to the consideration of the Legislature; and there is cause to presume, that a solid foundation has been laid for obtaining relief at an after period. This business was greatly forwarded by a meeting of landed proprietors at Edinburgh in February

ruary last, as noticed in a former Number of this Magazine, where it was taken up on correct principles, followed by wise and prudent resolutions. But the farmers in Scotland are also much indebted to their brethren in Roxburghshire, who early came forward and steadily used the most appropriate means of obtaining relief. Though their endeavours have not commanded success in the first instance, yet they have done more;—they have shown that they deserved it. The farmers of Roxburghshire are a respectable body of men; many of them, first in professional rank; and all of them eminently gifted with loyalty and integrity. The endeavours of such men were therefore entitled to notice; and the Conductor of this Work, with pleasure, embraces the present opportunity of expressing the high sense which he entertains of their meritorious conduct.

But what shall be said of those two public bodies, the National Board of Agriculture, and the Highland Society of Scotland, who, on this important occasion, stood aloof, and allowed a number of poor, weak, silly farmers to fight a battle which more immediately belonged to them, as guardians of the agricultural interest? Did the directors of these institutions think that a premium for a cottage-plan, a ploughing-match, or even a good bull, would compensate farmers for the capital stock wrested from them under the injudicious and impolitical enactments of the Property-tax act? If these gentlemen thought so, we can only lament that their public conduct should be guided by such mistaken principles. Their meetings may prove exceedingly amusing to themselves, though apprehensions are entertained, that, ultimately, the interests of agriculture will, if they continue to act in this way, be little benefited. A national society, to be beneficial, should take up every cause which exceeds individual strength. This is the sole reason why a number of individuals associate together; and, except it, another cannot be assigned. The Board of Agriculture did their duty when they applied to Parliament for a general enclosure bill; and so did the Highland Society, when they offered a bill for the commutation of thirlage. Had these public bodies persisted in bringing forward measures calculated for benefiting the agricultural interest of the island, they would deservedly have been hailed as the protectors of agriculture; but, when they sit with their arms *a-kimbo*, and neglect the interest of the cultivators of the soil, in a point which decidedly affects them, a very different character must be given. It is not too late, however, to redeem their characters. To prompt a redemption, is the sole cause why their jejune conduct in the business alluded to has at this time been noticed.

When on this subject, it cannot be amiss, to extract some parts of a letter sent to a member of Parliament, with a view to explain the different situations of English and Scotch farmers under the Property-tax act. In doing this, we must hazard a repetition of some sentiments offered in the First Branch of this Number.

'I take the liberty of submitting to your consideration, some observations concerning the Property-tax as it affects the tenantry of Scotland;

land; and, in particular, shall endeavour to show, that the act has been more severely administered in this country than in England, though undoubtedly the Legislature meant to place the farmers of both countries upon an equal footing.

'In the *first* place, The Property-tax is not assessed upon farmers according to the extent of gains and profits, but according to an hypothetical rule, neither founded in truth, nor capable of being applied to the situation of any two farmers whatever. I need hardly state, that gains and profits are diminished, as the rate of rent is advanced, though the rule laid down in the act proceeds upon a direct contrary principle; and I need as little add, that the gains and profits of farmers depend much more upon their activity and industry, than upon the *quantum* of rent paid to their landlords. Were all farms set upon equal terms, and were all the occupiers gifted with the like genius and ability, it might not be difficult to find out a general rule of assessment; but, till equality subsists in these circumstances, every general rule must be regarded as false, arbitrary and oppressive.

'In the *second* place, the clause which directs a revaluation at the end of seven years, deserves to be considered as an enactment for laying a tax upon improvement; therefore, not only as grievously unjust to the occupier, but highly impolitical to the State. Let me explain myself, by a statement of facts. The farm in my possession has been all lately limed at a very great expense, and is now in high order; consequently of more value, by reason of the several improvements recently introduced. According to the act, the farm must soon be revalued; and, of course, my tax, as occupier, will be considerably increased. But that is not the worst of it. I will also be rated for the proprietor's share of tax upon the increased value of the farm, and altogether have to pay three shillings in the pound of that increased value. No doubt, part of the increased value may be attributed to the rise which has taken place upon land, or, more strictly speaking, to the depreciation which has taken place in the value of money; but still, for improving the farm, I am taxed for every halfpenny expended in making improvements, and *that*, at a time, when the capital stock laid out upon improvement ought to be returned to me in the shape of increased crops of corn and grass. Had the framer of the act wished to discourage agricultural improvement, he could hardly have pitched upon a more effectual mean than the one animadverted upon.

'In the *third* place, allow me to recal to your recollection, that Scottish farmers are not subjected to pay the proprietor's public burdens, on which account the rents paid by them are apparently more excessive than those paid by their English brethren. In England, one half of the real rent is paid to the church, the poor and the public, and by consequence the nominal rent stipulated to be paid by the tenant to the proprietor, or the rent which appears in the lease or agreement, is comparatively insignificant. Now, it is upon this reduced rent that the tax can, at the worst, be assessed; and, in this way,

way, the English farmer, though his tax is fixed by the act at 18d. in the pound, actually pays much less than the Scottish farmer who is rated at one shilling. Another circumstance may also be stated, as occasioning rents in Scotland to exceed those given in England for similar soils, and that is, the difference of the value of labour in the two countries. Owing to this circumstance, a farmer in Scotland is enabled to give the proprietor a greater share of the produce as rent, than practicable in England; though, certainly, the farmer's income in the former country is not thereby increased.

'In the *fourth* place, I have reason to believe, that low as rent is in England, when compared with what it is in Scotland, the tax has seldom been assessed according to the rent, but generally according to the poor's-rate assessment. If this is the case, we need not wonder at English farmers being silent, especially when it is well known that revaluation has seldom been exercised. In short, it appears that the Property-tax has been levied upon the farmers of England and Scotland, as differently as if separate acts had been passed by the Legislature for taxing the farmers of both countries. In Scotland, the tax has been levied upon the full rent, leases being directed to be produced, so as *that* rent might be ascertained. Where the period of possession exceeded seven years, a revaluation instantly took place, which revaluation was conducted without any regard to the age, abilities and circumstances of the occupiers, though upon these things the extent of gains and profits evidently depend. In a word, the system adopted for administering the Property-tax differed as widely in the two countries as their respective civil governments did in the arbitrary reign of Charles II. Perhaps much of the severity of the system arose from an exposition of the act, said to have come from an official gentleman in Edinburgh, who very kindly undertook to explain several enactments which the commissioners were unable to comprehend, till a meaning was furnished by this pragmatical gentleman.

'In the *fifth* place, it must appear absurd in the eyes of every reflecting person, that tenants are not allowed to prove a loss, when any thing of that kind is sustained, in the same way as permitted to merchants and manufacturers. Most assuredly, in cases where farmers can prove that they have neither gains nor profits, it is the *acmè* of oppression to rate them as enjoying full and ample incomes. A neighbour of mine was last year rated for 420*l.* of income, who, to my certain knowledge, lost 800*l.* of his capital stock. It no doubt is very convenient to fix upon rent as the criterion of assessment; but care should be taken, when promoting public conveniency, that injustice to individuals is not exercised. Were the commissioners allowed in future to hear farmers when losses are sustained, and to grant them relief when it can be proved, either by parole or written evidence, that their incomes were below the sums upon which they are assessed, justice would be done to individuals, whilst the public

would not suffer. At present, justice cannot be obtained. In fact, according to the existing mode of assessment, the tax is upon land, not upon gains and profits.'

SCOTLAND.

Banffshire Quarterly Report.

SINCE the 20th March, we have experienced very backward weather for the operations of seed work. The oats have been put into the ground under most unfavourable circumstances, and a good deal remained to be sown so late as the end of last week. Bear sowing seems to be within a narrow compass, as it is already generally over. Vegetation has been much checked till within these few days; and provender is immensely scarce. Notwithstanding the backward state of the weather, many of our best wintering stots have been sold, and at very fair prices, say from 8s. to 9s. per stone sink, which has given considerable relief. Grass parks are letting rather dearer than last year, and principally to dealers; which we look upon as a sign of the trade reviving in some degree.—*10th May.*

Letter from Langholm, 24th May.

'THE early part of the spring was singularly favourable to every kind of field operations. The oat seed was, in general, put into the ground under the most promising auspices. After this, a course of cold barren weather, accompanied with frost, and snow-showers, continued until the end of the first week of May; since which, we have had warm sultry days, with thunder and rain. From the bleak weather, and barrenness of the season during the month of April, the progress of vegetation was much checked; but the late refreshing showers, and warm temperature of the air, have brought both corn crops and grass rapidly forward.

'Excepting a sudden start which the grain markets experienced about the beginning of seed-time, the prices of victual have been pretty steady of late. Butcher meat, from the failure of the turnip crop, and lateness of grass, is now got scarce, and sold at a high price. Hay, however, has been plentiful, and is moderately rated. Sheep and black cattle are in good demand, with prices somewhat higher than those of last year. Horses, of good shape and size, are in great demand; and fetch high prices. The dry weather has been favourable to the stock-farmers during the lambing season; and a plentiful supply of lambs for the market may be expected. Excepting where the *rot* has been partially felt, sheep-stocks have been unusually healthy through this district last season. At our hiring market at Langholm this day, servants' wages were somewhat better than last year.'

Letter from Ayrshire, 24th May.

'SINCE about the middle of February, the weather, upon the whole, has been uncommonly fine, and as favourable for the various purposes of agriculture as the farmer could desire. Towards the middle

middle of April, there was a dry frosty wind for the space of eight or ten days; but, throughout the whole spring, there has been no falls of snow nor rain to drench the ground and retard farm-work. The seed has been put into the ground in a good state; the fallows have wrought kindly; and every species of crop, in so far as it has advanced, is looking well.

'Till of late, the pastures, owing to the long course of dry weather and cold, were very backward; but, within the last fortnight, the weather has totally changed, and become much warmer than is usual here at this season of the year, with a considerable deal of thunder and refreshing showers; which has occasioned, for the time, a most rapid vegetation, and a total change upon the face of the earth.

'The fear of want that was entertained at one time, on account of the stoppage of our intercourse with foreign nations, seems to be entirely done away. There is, at present, no report of want, nor any dread of scarcity. Through the season, grain has kept remarkably steady, at such a price as to indemnify the farmer, and not prove too heavy for the consumer. Oat-meal, in Ayr market, by retail, has not exceeded 1s. 10d. the peck; wheat has sold at about 40s. the four bushels; barley, 48s.; and bear from 36s. to 42s. the Ayrshire boll, (eight bushels.) Common oats, for seed, have sold for 35s.; and potatoe-oats as high as 40s. per boll.

'Owing to the good spring, and plenty of fodder, cattle have been kept in good condition. There has been a great demand for them, a ready sale, and a considerable advance in price since last year. If we take the average from 15 to 30 *per cent.*, we will not perhaps be far distant from the mark. Milch cows and young cattle have risen most. The price of meat in the shambles, both in Galloway and Ayrshire, has been still higher than the proportion of price given to the feeder.

'Good farming is daily creeping in, and old prejudices are wearing out. Perhaps nothing has contributed more to this change than the general rise of rents that has taken place. This is like the land of necessity;—a man must either do or die. Notwithstanding that rise, and the various pressures of the times, the demand for farms continues as great as ever. The greatest pressure is the Property-tax. Every farmer feels, and cries out against the partiality and injustice of it as it affects them. The farmers in this county have joined with their brethren in other parts of Scotland in a petition to Parliament; and their case is so strong, that it is impossible but they must receive redress from the good sense, the justice and liberality of Parliament. They have no objection whatever to pay 10 *per cent.* from their income; but they conceive the manner in which it has been imposed u qual and oppressive in the highest degree; insomuch that the e are not wanting hundreds of instances, where, instead of ten, they have twenty and thirty *per cent.* to pay; and, what is worst of all, to pay out of their capital expended in improve-

ments; and while these are going on, they are perhaps not making a shilling, but sometimes are great losers.

'The price of labour, and wages of mechanics, are nearly the same as when I wrote you last.

'I had almost forgot to mention, that, on account of the great demand for horses to refit the cavalry, the price of good ones has risen uncommonly high. It is but a sorry horse, now-a-days, that a man will not ask thirty guineas for.'

West Stirlingshire Quarterly Report.

The mild and genial weather which commenced in February, continued without interruption till the beginning of April. An early and vigorous vegetation ensued; pastures rapidly improved; and cattle of all kinds began to neglect their fodder in the house, and to place their chief dependence on the first fruits of Spring. In the beginning of April, we had frequent, though transient falls of snow, which were succeeded by four weeks of excessive drought, occasioned by a burning sun through the day, and by severe frosts through the night. During this period, verdure forsook the fields; and dry fodder was in as great request, and consumed in as large quantity, as during any month of winter. The lambing season was unfavourable, from the snow by which it was accompanied, and from the drought by which it was succeeded; yet there was no uncommon loss of lambs sustained, as the ewes were greatly improved by the preceding favourable weather. During the last two weeks, there were frequent showers, attended with thunder, which have improved the temperature of the climate, and raised the hopes of the husbandman.

Wheat, except in a few sheltered situations, and on a very rich soil, is very unpromising. Owing to the prevention of the tillering process, by the unfavourable weather of April, the fields are thin; and, though the season has improved, yet, from its advanced state, there is no prospect that the evil will be remedied, or that the crop will be ample.

A general tendency appeared this season to avoid the danger incurred in the last, from hastening the seed-time. Except in the Carse, where the beans and oats were early delivered to an excellent seed-bed, little grain was sown in this district during the favourable weather in March. Even in the drought of the succeeding month, sowing and ploughing were occasionally suspended, from the apprehension of injury to the seed by the severe frosts. The great object, in this place, is to sow upon hot furrow, that is, upon the soil, immediately after being turned up with the plough. The seed rapidly vegetates upon this fresh soil, and the braird is enabled to contend on equal terms with the indigenous weeds. If the seed process does not immediately follow the seed-furrow, the weeds, during the interval, obtain a confirmed possession of the soil, and materially injure—if the season is backward, completely overpower—the future crop. Our farmers, acting upon this system, retain a predilection for

for beginning the oat-seed on the first week of April, old style. This season, the oat-seed was not finished till the end of that month.

Though a large extent of ground was laid last year under potatoes, and though the produce was abundant and excellent, the whole crop is nearly consumed. Potatoes, for seed, were scarce; and the price rose to 10s. per boll of barley measure, though it was only 5s. in the end of harvest. Double the usual quantity is planted this season; and, if an excellent preparation were sufficient to ensure the crop, we might expect an abundant one. Barley-seed followed in course; the last patches will be finished this week.

The braird does not seem to have been injured by the unfavourable weather of April; it looks in general healthy and vigorous. The hay crop has suffered most; and, as it was beginning to shoot when the weather changed, little future improvement can be expected. Pasturage is beginning to afford a full bite. Markets for cattle are high. All the young stock in this district, both stots and heifers, was early bought by dealers from Galloway and England: their place is supplied by cattle from the Highlands. Oatmeal sells at 30s. per boll. The sale is at present dull; but, as there is now little native grain, the demand will probably soon improve. ——*May 24th.*

Aberdeenshire Quarterly Report.

The Spring season set in early and favourable. From the 24th of February, till about the same date in March, the weather was mild, dry, and highly adapted to every agricultural purpose. During that period, one half of the oats might have been sown in a very promising state, and the harrowing finished in the very best order. Lean stock were also much kept out on the pastures, and a saving of provender obtained, which was greatly wanted. After that, the weather altered; snow fell plentifully for about a fortnight, when rain and snow took place alternately, with cold winds from the north-east, north, and north-west; which put a stop to every kind of field-work at times, and rendered that which was done exceedingly unseasonable. This state of weather continued until the 8th of May; and left scarcely an atom in the stack-yards all over the county. One half of the oat-seed, with more than two-thirds of the bear, were deposited, during that space, in a very unpromising situation; but the weather for the last three weeks has been so warm, dry and favourable, as to bring up both grain and grass, and to give a gloss and look to the country which it seldom exceeds at this season. The hay-fields promise a good crop; and grass-parks have set fully up to last year's prices, which were very high. The turnip ground has wrought exceedingly well for some time past, and will be in fine order for the seed by the time of sowing. A considerable number of fat cattle were bought up here for the South, throughout the spring months; of course, that article rose in value. Prices from 50s. to 60s. per hundred weight, sinking the offal; at which they still continue. Lean stock are also sold

considerably above last year's prices. Sheep have advanced but little, not being much kept in this county.

In the price of grain there has scarcely been any alteration since the date of last Report. For some time it was rather flat; and still there are few merchants in the way of purchasing for distant markets; but the quantity on hand, except on gentlemen's farms, is inconsiderable; and a small advance has taken place for the last three weeks in the market of Aberdeen. There is no alteration on the price of labour.——*May 26th.*

Berwickshire Quarterly Report.

We had a week or two of tolerably mild weather at the beginning of the quarter; but the last week of March, and the whole month of April, was so unseasonably cold, that vegetation remained almost quite stationary. May has, however, entirely altered the scene, by a warmth as much above the usual temperature as the preceding month was below; and the change produced in the vegetable world has been proportionably rapid.

'From the moist meadow to the wither'd hill,
'Led by the breeze, the vivid verdure ran,
'And swell'd, and deepen'd, to the cherish'd eye.
'The hawthorn whiten'd; and the juicy groves,
'Bursting their buds, unfolded every leaf,
'Till the whole waving forest stood display'd
'In full luxuriance to the sighing gales.'

The weather having been dry throughout, proved exceedingly favourable to field operations. The sowing of spring wheat commenced about the 21st of February, followed by the other grains in succession; and, notwithstanding the backward state of ploughing, at the commencement of the quarter, every operation connected with the spring seed was completed by the end of April in fine order. Most of the Swedish turnip are already sown; and fallows for common turnip are in a forward state of preparation.

Winter wheat, though in some cases rather thin, has all along exhibited a healthy aspect; young clovers appear in general sufficiently thick, and are now thriving; but, with regard to other pastures, they were in many situations kept excessively bare, till May set in. The spring corn has everywhere made a healthy braird, except on some wet-bottomed soils, where the grub seems to be lurking; and on these the plants make but a thin appearance.

The crop of lambs in the low district may be reckoned nearly as full as usual; though, from the backwardness of vegetation, they were at first but poorly supplied with milk. This deficiency was, however, more severely felt in the hill-district, where many of the lambs died for want of sustenance. The loss of young sheep has also been considerable in the Lammermuir district.

Stock in forwardly condition for grazing, has found a ready market, at prices fully equal to those of last season; but, where back in condition, it has had few buyers. Fat has been much in demand.

Beef

it 7s. 6d. to 8s. 6d. per stone, sink; and Mutton at 7½d. to r lib. do. avoirdupois weight. Grass parks have, upon an ge, let at lower rents than last year.

e corn trade having, for some time past, been under the in- e of political arrangements, which baffled every attempt at cal- on as to future supply, speculation has, in consequence, been at a stand, and markets dull. — *May 28th.*

S. Since the above was written, a fall of at least 15 degrees the heat experienced of late, has occurred. This morning, the a the neighbourhood were all white; and, in particular, Che- as thick covered with snow.——*May 30th.*

Fiars of Berwickshire, Candlemas 1809, for crop 1808.

t, per boll - -	L. 1	10	8	Linlithgow Wheat.
- - -	1	10	8	Measure.
r - - -	1	11	0	
nermuir do. - -	1	10	0	
h Bear - -	1	8	0	Linlithgow Barley
se Oats - -	1	4	0	Measure.
nermuir do. -	1	3	0	
ieal p. boll of 8 st. Dutch	1	5	0	

Upper Annandale Quarterly Report.

e spring quarter has been unusually cold; but as there was a deal of dry weather, the labours of the field went on readily. d oats and potatoes were put in with advantage. The oat l rose equally; and, though now in much want of rain, it has not greatly injured. Some partial showers, that fell, with thunder, been of service to young sown grasses, and to all sorts of grow- ops. Yet the hay crops are so parched at present, as to threaten thin and light: and the roller must be applied to the oats, un- in come on very soon. The latter part of April was cold for mbs; but being free from snow showers, or cold rains, not have perished.

rkets for sheep, cattle, and wool, are good, and rising. Victual ns nearly stationary. Hay is cheap; but must advance. La- extremely high.

s now late enough to sow Swedish turnips; but the lands are ring with advantage for later sown turnips; nor is this plant at a favourite among our farmers as potatoes, which are easier clean, and less precarious as a crop.

respectable and public-spirited gentleman in this county, has s working horses with steamed potatoes and hay, without a par- f corn, for months; and during all that time, the horses have ght regularly in the fields, and have been in excellent order. result was not expected by the servants or people; but such is ct. The steaming apparatus is simple, and executes the work, t to any extent wanted.——*May 21.*

Ross-shire Quarterly Report.

ce the first of March, the weather has been remarkably dry, at-

tended with an uncommon prevalence of cold, during the most of that period. Field operations were executed in the most satisfactory manner; but until the 7th of this month, vegetation was entirely at a stand. The seed was never put in the ground in fairer order; and a full braird of healthy plants, which have been much forwarded by the last three weeks of genial weather, inspires us with hopes of a plentiful harvest. The wheat fields are well stocked with plants; and their vigorous aspect justifies the expectation of a full crop. Hay fields likewise look well; but, it is suspected, rather want moisture, so as to render their produce weighty. The turnip fields have had the finest weather for preparing them; and a few of the Swedish kind are already sown. Indeed the loss sustained by rot in the preceding winter does not render it adviseable to sow so early as this, considering that the whole of our stock must in general be kept on turnips till the beginning of May. On a fair comparison, the red turnips stood last winter as well as the yellow; and whites and reds, both sown the beginning of July, did not show any difference of soundness in the month of April. The extent of rot, evidently appeared to be, according to the degree of maturity of the crop, or nature of the soil, and not according to the different kinds. The idea, therefore, of the whites being more tender than the reds and yellows, has likely arisen, from that kind being generally first sown.

The cold frosty weather of April, with occasional blasts of snow, came unseasonably for the young lambs: their number, of course, will be diminished, as well as the quality affected, by the want of food for the mother, which, however, will be got the better of by the fine weather of the last three weeks. It is stated with pleasure, that Sir George Mackenzie's Merinos continue to thrive; although it is proper to mention that his management of them, and all stock, is very superior, they being reared with almost as much care as, it is reported, one of the Dukes of Athole bestowed on the Larix, when he first introduced it on his estates, and had it planted in a hot-house; therefore we may not despair of seeing the Merinos thrive in situations not possessed of first-rate advantages. Cattle of every description have sold readily this spring; but not at high prices. Those in good condition for going south, have not exceeded 7s. 6d. per Dutch stone, sinking the offal. The corn trade is over for the season, excepting for barley, which sells in retail to smugglers at 40s. 42s. to 45s. Oatmeal is already scarce. Price nominal, from 34s. to 40s. per 9 Dutch stones. Viewing the difference of price in the south, it might be expected that importation would soon cause a reduction; but the trade of the middleman is so troublesome and hazardous, that few are tempted to embark in it.

Attempts are now making to introduce good roads in the low-country districts of Ross. It is unnecessary to comment on what is so indispensable towards the improvement and respectability of a country.—Judgment in their profession, appears to be the characteristic of those who are projecting and carrying on these works; and

and should the landlords display liberality of disposition, and not thwart the plans of the surveyors, it may be hoped that this county will be improved in a manner much surpassing, and at a period much sooner, than what could have been expected a few years ago.

May 28.

Letter from Falkirk, May 29.

'More favourable weather than that of last quarter, for executing, in the most perfect manner, the various operations of spring-seed work, could not have been wished for. That important process met no interruption; but the weather, being at the same time rigorously cold, proved highly unfriendly to vegetation. I never saw the district present a more generally sterile aspect than it did this season up to the second week in May. Since that period, however, appearances are much changed for the better; and having had, within the last two days, a very ample supply of rain, it may fairly be expected that things will push on rapidly. The rain came very opportunely for the hay crop, which was in a critical state; for although there is no deficiency, either of rye-grass or clover, the former had generally come into ear, while it was at the same time very short; a coincidence greatly against a heavy crop of hay. Spring crops generally look well, although rather backward. This however may be soon made up, should warm weather succeed the late rains. The grub-worm, from which our oats suffered considerably last year, has not been observed this season. Many fields of wheat look extremely well, and promise a full crop; the greater number, however, are thin on the ground; some, indeed, from this cause, were ploughed up in the spring. Our grain markets were pretty steady through last quarter, till of late that they have fallen considerably; and, in consequence of our new relations with America, a more considerable fall is yet looked for—greater probably than will be realized.

'A very considerable rise in the price of cattle has lately taken place, which, with some also in grass parks above last year, will make grazing a doubtful concern this season, unless prices are uncommonly high during the autumnal months.

'In this district, scarcely a word has been heard of the injustice and partiality of the Property-tax from the tenants themselves. This, however, is not very surprising; for the best of all possible reasons, that they have felt little or nothing of its hardships. This arises chiefly from the smallness of farms in the Carse, which, in some cases, exempts them altogether from its operation, and, in many, from the *maximum* of the tax. Unless rent is above a hundred pounds, they do not possess a taxable income; and, if under three, they pay on a scale below 10 per cent. It is pretty generally believed, too, that they have been tenderly dealt with by the commissioners, in assessing for surplus rent, where they have been in possession above seven years. Under such circumstances, where there is so little real cause of complaint, to murmur would be very unreasonable;

sonable; and not much less unreasonable to expect, that a set of men, satisfied with farms of fifty acres, (and this quantity is probably rather above than below the average extent of Carse farms), should interest themselves much about their brethren in other districts, far differently situated;—when we see proprietors, men of liberal education and enlightened minds, and who must ultimately, although not always immediately, bear the burden, looking on with almost total indifference about the matter, and without bestirring themselves with activity to remedy the evil. What has hitherto been done, has been merely the efforts of a few active, public-spirited individuals, and by no means the united exertions of the great body of proprietors, which could scarcely, ere this time, have failed to remedy the evil in question.'

Inverness-shire Quarterly Report.

THE spring quarter, on the whole, was favourable for seed work and for the young lambs; but backward for vegetation till the 5th instant, when the weather became warm and agreeable. Since that time, some fine showers of rain have brought forward the grass and corn in a wonderful manner; and hay and wheat fields promise to return abundant crops. The preparation for turnip goes on briskly, and a good deal of the Swedish sort is already sown. Notwithstanding the severity of the frost last spring, yellow field turnip stood the weather nearly equally well with the Swedish; but white turnips suffered much, to the great loss of those who depended on them.

The demand for cattle of all descriptions has been very brisk of late; and a much greater number are already driven south, than usual at this period of the season. Fat beef and mutton being scarce, are selling at 7d. and 8d. per lib. There is a full supply of oatmeal still in the country; and prices have not yet exceeded 32s. per boll of nine stone. The locks of the Caledonian canal, on this side, will be all finished this season, with the exception of the sea lock, which is not yet begun. They are fully as forward at the west end. The excavation goes on briskly. The landed gentlemen of this county, at a general meeting on the 2d instant, took the Property-tax, as it affects farmers, into consideration; and, after considerable debate, agreed to the following resolutions on that subject.

'*At Inverness, the 2d May*, 1809.

'In a General Meeting of the Commissioners of Supply, Freeholders, and other Heritors, and Justices of the Peace of Inverness-shire.

'The Hon. Col. Archd. Fraser Lovat, *Preses.*

The Meeting having taking into their consideration the Property Tax, in so far as it affects Farmers,

'1. *Resolved*, That in a moment when the Empire is pressed with danger, and when we are contending for our dearest rights with an enemy whose unprincipled ambition has involved most of the other nations of Europe in distress and ruin, War Taxes are necessary; and that it is the duty of every subject to submit to privation, and bear a ratcable proportion of them.

'2.

'2. *Resolved*, That the principle of fair taxation is an equal distribution of the burden on all ranks and orders of the community, according to their respective means, correctly estimated.

'3. *Resolved*, That this, in particular, was intended as the groundwork of the Property Tax, which, taking a complex view of the subject, in its spirit and fair operation, was meant as a deduction of *ten per cent.* from every individual's free income, and no more, whether arising from trade, profession, or capital; or from all combined.

'4. *Resolved*, That as the law now exists, this equitable rule has been departed from in the case of the farmer in Scotland; who is assessed to the Property Tax on assumed data that neither ascertain his profits nor capital.

'5. *Resolved*, That *a fixed standard*, by which to estimate his free income, will render the tax more productive to Government, and less vexatious to the farmer, than the right of appeal, as an amendment of the present law.

'6. *Resolved*, That a farmer's capital, in general, may be estimated at four times the amount of his rent; and that the free profits on this may be fairly averaged at seven and a half per cent., and no more. Indeed, 100*l.* *per annum* of rent will pay 3*l.* of Property Tax; and so, proportionally, according to the rent reserved. And though this cannot be considered as an unexceptionable rule in all cases, by which to estimate the farmer's free income; yet it appears better to submit to partial grievances, than to run the risk of a large defalcation of revenue, by recurring to the right of appeal—where, in particular instances, objections to this criterion of taxation might be well founded.

'7. *Resolved*, That the principle of this alteration being to tax the farmer ten *per cent.* of his free income arising from capital employed, it ought to affect all descriptions of people renting land, without exception; the same rule being applicable, in this case, as to annuitants in the funds.

'Signed in name, and by appointment of the Meeting,

'A. Fraser Lovat, Preses.'

Mid-Lothian Quarterly Report.

The spring quarter has proved, throughout, remarkably favourable for field labour; of course, the various seeds have been deposited in the ground in the best possible order. Vegetation, however, with the exception of a few days in March, seemed to make little progress before the 7th current. Nay, even so late as the 3d, ice was visible on the small pools.

Turnips of the Swedish kind have been sown some time since, and are now above ground; a circumstance of great importance, as it is now well ascertained, that early sowing in May is the only chance of raising this root to a great size, and securing a good crop. The wheats, in some fields, have been thinned by the frosts and in others they have been ploughed down; but these instances are by no means general; for, upon the whole, the country everywhere presents a promising aspect.

Stacks

Stacks are getting thin in the corn yards; yet, though last crop was certainly deficient, no apprehension of scarcity is entertained. The markets are fully supplied, and prices rather lower; a circumstance which evinces, that the fears of those are not well founded, who dread want whenever there is not a great importation. Fat cattle are high in price, owing to the great demand from England; and cattle of every description have advanced considerably.——*May* 29.

Dumbartonshire Quarterly Report.

During the past quarter, the weather, with the exception of the cold in the month of April, has been just as favourable as the farmer could wish. The whole of March consisted of mild, dry, settled weather, which permitted field work to go on without interruption. April, though very cold, with hard frosts occasionally, which stopped vegetation, and hurt the wheats and clovers, was equally favourable for labour; and May, after a few days at the beginning, has afforded excellent weather. About ten days ago, the crops were feeling the effects of the heat and drought; but, since that time, we have had fine warm rains, which have made every thing flourish in the highest degree. It is seldom that the heat is so great in May, as it has been this year. On some of the warm days about the 18th, the thermometer stood at 79° in the shade at mid-day, being within three degrees of the greatest heat in this quarter last summer, when the weather was uncommonly warm.

With such weather as might be expected, the labours of the quarter have been executed in the most regular and complete manner, without hurry or delay; the braird has come up thick and vigorous, and every thing gives promise hitherto of an abundant crop. Wheat, in general, looks worst of all, in consequence of the cold in April; but it is recovering fast, and may yet amount to an average. Many potatoes have been planted this year, and a good deal of bear sown; the principal cause of which last is, that experience proves it to be by far the best crop with which to sow grass seeds, the inferior value of the barley crop being, in some degree compensated by the superiority of the grass. This holds more particularly on all soils, except those rich fertile moulds, of which we have few or none in the west of Scotland; and it has induced many farmers, who would otherwise sow grass with their wheat, to take a crop of barley the following year, with three furrows, or a crop of oats with two furrows, and then to sow their grass seeds. The propriety of this last practice is very questionable, and it cannot be excused on any ground but the uncertain state of the barley market. It is, therefore, an object of importance, as indispensable to the permanent interest of agriculture, that the barley should be preserved, and never interfered with, unless a very strong case is made out.

Markets have been higher than usual during this quarter, particularly butcher meat of all kinds, which may be owing to the present state of the distilleries. Oats and oatmeal sell about 29s. per boll. A good

good deal has been imported from Ireland. Potatoes are of excellent quality at 20s. per boll, large measure. Lean cattle have been higher in price, and quicker in sale, at the late markets, than for two years past. This may be owing, in some measure, to the forward state of the pasture grass, which is very good.—*May* 29.

P. S. Since writing the above, an unexpected reverse of weather has taken place. The wind went round to the east, with much rain, and very cold. It afterwards began to snow; and this morning, the 30th, even the low grounds are covered with snow to the depth of two or three inches; a thing, perhaps, never witnessed before, so far on in the season, and which must injure the forward wheats by crushing them down.

Forfarshire Quarterly Report.

A CONTINUATION of dry weather has prevailed throughout the preceding quarter; and, of consequence, every kind of seed work has been executed in a satisfactory manner. Until the second week of May, vegetation was much checked; but after that period it pushed on very rapidly. The season has been favourable for cleaning turnip lands and fallows; and, on some farms, the sowing of ruta baga and turnips is already begun.

Prices of grain have fallen of late; but the quantity in the hands of the farmer is inconsiderable. Decent Wheat brings from 42s. to 45s.; Barley 25s. to 30s.; Oats 28s. to 30s. per boll. Cattle markets went off briskly at first, but afterwards became dull; now, when vegetation is forward, the demand is greater. Prices are fully higher than last year. Fat is scarce, and brings about 11s. to 12s. per stone. Grass Parks have let beyond any former rents, at least 10 *per cent.* From 4*l.* to 6*l.* per acre, and even higher, has been promised for ordinary fields. The price of Horses is now become a serious matter to the farmer; a good pair cannot be got under 120*l.* The price of labour is nearly stationary. Hands were plenty at the preceding term.

Many Wheat fields are thinly planted this season; particularly after well made fallow, sown about the end of September. Several fields have been sown in March, which will ascertain the propriety of spring sowing in this county. The Hay crop does not promise to be heavy, although it is certainly benefited by the late showers. The braird of Oats, Barley, and other spring grain, is, in general, close.

A lethargy still prevails with the farmers of this county, in taking steps to get the Income-tax on farmers equally assessed with the rest of the community,—*May* 30.

Dumfries-shire Quarterly Report.

A HAPPY change of weather took place early in the spring. The wheat sown in November was kept long under ground; but both it, and that sown earlier, were less injured than might have been expected by the extreme frosts and tempestuous weather in the winter. These crops are now looking healthy and well. Some seed of Lincolnshire

colnshire spring wheat has been brought to this part of the country from Edinburgh. It appears to be the same kind which was pretty generally cultivated in Cumberland and this neighbourhood thirty years ago; but this now brought seems a very inferior sample, perhaps owing to its being in some degree mildewed. It looks, however, pretty well in braird. When formerly raised in this county, it was at first thought an acquisition: not as being equal in quality to good winter wheat, but because it grew abundant in quantity, and with the same culture, when sown at the same time with barley. It was, however, at length entirely given up, on account of its tendency to smut. Perhaps the same efficacious means now used to prevent that foul disease, were not then practised. If such will prevent it from affecting this seed now, it seems not unlikely but it may still be found an useful and advantageous variety in many situations and seasons.

The oat seed was sown in seasonable weather, and the ground in condition better than ordinary. The barley seed season was also good; and all these crops are now in a promising state.

All the crops of last year have turned ont well; more grain having been brought to market than was expected, and some still in the yards. This may be imputed to the fertility of the crops in the inland and upper parts of the county, where many of the inhabitants, who for ordinary are buyers of meal and grain, were supplied at home. This apparent state of the barn-yards and granaries, with the prospect of the American markets being open, has brought down the price of all grain. Wheat is now sold from 11s. to 12s.; Barley from 4s. 6d. to 5s.; Oats from 3s. 6d. to 4s. the bushel; Oatmeal at 3s. the stone.

The turnip crop failed early in February, owing to the extreme frosts and changes of weather. In March, none of them remained but the Swedish kind, which made the superior value of these more generally allowed. To the failure of turnip may be attributed the scarcity and high price of animal food in the spring. Beef now sells at 10s. the stone of 16 lib. sinking offal; Mutton at 8d.; Lamb at 6d. the lib. Lean stock is fully in proportion, perhaps owing to the loss of sheep and lambs in the two former springs. The seasonable weather of this last will probably have the reverse effect. The crop of lambs (as it is called) is reckoned good and abundant. No other circumstance appears to affect the quantity of animal food so much, as the mildness or severity of the month of April, not for that month alone, but for years thereafter. The Spring or April food for sheep and cattle should therefore be the greatest study of the agriculturist.——*May* 30.

Letter from Glasgow, 31st May.

'THE weather, during the month of March, was peculiarly favourable for putting the seed into the ground. In April, however, it was cold and frosty, and, of course, adverse to the progress of vegetation. It was not before the 7th of the present month that a propitious

propitious change took place. From that date till Monday the 29th, the weather having been fine and warm, accompanied by refreshing showers of rain, the growth of the young crops was visibly great; and everywhere they exhibited a vigorous and healthy aspect. On Monday, however, we were visited with a very singular storm at this advanced season. The whole of that day was extremely cold, and in the evening there was a heavy fall of snow. Yesterday it was equally cold, with much snow, and a keen frost through the night. To-day, though fair, the cold still continues. We hope this storm will soon give place to more genial weather, otherwise great injury will be done to the growing crops.

'The long tract of dry weather which we experienced during the course of the spring, enabled farmers to plant a greater quantity of potatoes than they have ever done in any former year. In fact, the cultivation of this esculent, followed by wheat, seems now to be the principal study of farmers; for it is by the adoption of this plan only, that they can afford to pay their present high rents.

'Our supplies of wheat, during the last three months, have been chiefly drawn from the north and east of Scotland, with a few cargoes from Ireland; but we expect large arrivals of wheat and flour from the States in the months of July and August, in consequence of Mr Erskine's recent arrangements with the American government. In expectation of such supplies, coupled with the recent fine weather, the price of this grain has of late declined considerably. It will still go lower, if the weather should be favourable; for it is on the produce of our own country, more than foreign importations, that we now in an especial manner depend for cheap markets.

'During the last quarter, the importation of oats from Ireland and the south of Scotland have been vast. We calculate, that, in that time, not less than 70,000 bolls have arrived in our river. This great influx has caused a considerable reduction in the price; and, as large supplies are still expected, it is probable the price will experience further diminution. The quantity of barley on hand is but small; nor is it much wanted, the malting season with the brewers being nearly over. The stock of beans and peas is large; and, as the demand now begins to diminish, we expect, of course, lower prices.

'State of Glasgow Markets, Wednesday, 31st May.

Foreign Red Wheat,	45s. to 48s.	}	p. boll of Linlithgowshire measure.
Scotch do.	44s. — 46s.		
English do.	47s. — 88s.		
American do.	50s. — 52s.	}	ditto of 240 lib.
Irish do.	45s. — 47s.		
Irish Mealing Oats	26s. — 29s.	}	ditto of 264 lib.
Do. inferior do.	23s. — 25s.		
Scotch Potato do.	28s. — 29s.	}	ditto Renfrewshire measure.
Ditto Small do.	24s. — 25s.		
English Barley,	38s. — 39s.	}	ditto Stirlingshire ditto.
Scotch do.	28s. — 30s.		

Irish

Irish Barley,	29s. — 32s.	p. boll, Renfrewshire measure.
English Beans,	34s. — 36s.	ditto Stirlingshire ditto.
Scotch do.	30s. — 33s.	
English Grey Peas	33s. — 34s.	ditto ditto ditto.
Scotch do.	30s. — 33s.	
Do. Oatmeal	27s. — 30s.	ditto of 140 lib.
Irish do.	27s. — 28s.	
Fine Flour	78s. — 80s.	p. sack of 280 lib.

Fifeshire Quarterly Report.

The weather, during the spring quarter, was remarkably favourable, being both dry and warm, which allowed the oat and barley seed to be finished under circumstances highly favourable to their after prosperity; and the sown grass, on the 25th May, was everywhere fit to be cut for the support of horses and cows. A good deal of it, indeed, is actually cut for that purpose.

On the 26th May the weather changed, and became remarkably cold and frosty, with snow upon the hills, which continued so the 31st, when the whole county was covered with snow, even to the sea-shore, some inches deep; the sown grass and wheat laid flat, and the trees, in full foliage, covered with it. To this a very heavy rain succeeded, which still continues, whereby an entire stop is put to working summer fallow and turnip land, until more favourable weather arrives.

The wheat has a good colour, and looks remarkably well; so that, if we are again favoured with dry and warm weather, an abundant crop, and an early harvest, may be expected. The quantity of potatoes planted is very great; and as they are not above ground, they have escaped being hurt by the frost and snow.

Of flax-seed there was so great a scarcity, that little comparatively is sown. Dutch seed sold as high as 4s. per lippie: what is sown is looking well, and may produce a sufficient quantity of seed to supply the country next year, if foreign importations are not made. Pasture grass has received a check from the cold weather, but will soon recover, if it changes to mild. Corn markets remain steady. Workmen's wages are also steady, work being plentiful.—*2d June.*

Morayshire Quarterly Report.

The farmers whose young cattle got turnip in stalls (a practice found by experience more profitable in this county than field-feeding), had them early off at good prices; while a continued demand has enabled others, with more inferior stock, and in worse condition, also to get clear-handed.—Spring-sowing has terminated under the most favourable circumstances. Oats, beans and barley make a fine appearance; so does wheat, on our friable and sandy soils; but, on the clays, it bears a most unpromising aspect, and cannot, with the best of weather, be two-thirds of an average crop.

Situate as this county is at a distance from the metropolis, and without that ready market which, in more populous districts, is to be

be found for every article of farm produce, it must afford pleasure, even to those who have no interest in them, to see the various improvements going on here. A contract for draining the Loch of Spynie, situated about the centre of this fertile district, has been entered into; and the work was begun in March last with 100 men, by whose labour (perhaps in 18 months) a thousand acres of land will be gained at an expense of about 10,000*l.* Good roads are making through the county; and packet-boats are immediately to be established betwixt the new harbour of Burghead and Little Ferry, in the county of Sutherland, by which an advantageous intercourse, hitherto unknown to the inhabitants of either sides of the Moray Frith, will be established; while travellers from the South, to or from Sutherland or Caithness, will, in place of passing four unpleasant ferries in open boats, have the comfort of a decked vessel, 40 tons burden, for themselves, their carriages and cattle, besides saving many miles of road.

Fortunately for farmers in this county, their wheat was sold and delivered at 40s. to 45s. per boll, previous to the late stagnation in prices; and the county does not now contain 500 bolls. A sufficiency of barley and oats, to meet the consumpt until next harvest, still remains: the former goes slowly off, at 35s. per boll; the latter at 28s. to 35s. per five firlots, as in quality. Oatmeal 2s. per peck of 9 lib. in retail. Hay 1s. per stone, 20 lib. Amsterdam, and in request; principally owing to the extra number of horses employed in dragging down from the woods to the shore considerable quantities of fir timber, which has now found a market, owing to political causes obvious to every person, and of which it may be well for all the proprietors of Scotch timber to avail themselves.—*2d June.*

East Lothian Quarterly Report.

The cold stormy weather which commenced in the end of March, and prevailed through April, was succeeded, in the second week of May, by weather of a different description; the effects of which were conspicuously displayed, by a rapid improvement in the appearance of all crops, especially those of wheat and clover. The change was so important, that every field almost immediately assumed the brightest aspect. But a strong check to their future prosperity took place in the end of the month, when frost, snow, stormy winds and heavy rains, followed each other so rapidly, as to threaten the severest injury to every kind of crop; and some instances of damage are already evident, though the extent of the whole is not to be calculated.

But the greatest apparent loss is upon the fields worked up for turnips, upon which much of the labour formerly given will be lost; whilst few of them, except those of a real turnip soil, can now be cultivated to advantage. Every field, however well dressed, must again be ploughed to bring it into proper tilth; and this retardment will necessarily cause all the ruta baga fields which were not sown, to be behind the proper season. Even the fields sown immediately before the rain, are so battered and hardened, that doubts may be

entertained whether the seed will ever spring into a plant. The delay caused in the cleaning of beans, will also be seriously felt by many people.

The Grain-market, the main support of this county, has undergone many changes through the quarter; but it is presumed that the lowest level for this season has now been reached, and that an advance of price, rather than a fall, must afterwards be looked for. Wheat remains in hand, much to the same extent as usual; but Oats are not a plentiful article; and almost every boll of beans and peas is in the hands of the dealers. At this time, decent Wheat is worth from 45s. to 50s.; Barley 28s. to 33s.; Oats 26s. to 32s.; Beans and Peas 27s. to 31s. It being now almost certain that the differences with America are not to be compromised, an import of wheat from that country, of any extent, may not be looked for. No doubt, several cargoes would be shipped, upon the faith that Mr Erskine's treaty would be ratified; but these can only be a sample of what otherwise might have been expected.

A general rot of common turnips in February and March caused the markets to be glutted for some weeks with fat cattle and sheep; but latterly, a demand has appeared, which fully exceeded the quantity presented. Prices for fat cattle have varied from 9s. to 11s. 6d. per stone of 17½ lib. avoirdupois, sink; and for Mutton, from 10s. to 13s. ditto. Good Lambs have not been scarce, much attention being now paid to the rearing of that article. Perhaps, in most instances, lambs have sold fully 10 *per cent.* higher than last year.

The potatoe land was planted in excellent condition, though it does not appear that more ground has been devoted to the culture of that valuable root than usual. In this county, the demand for potatoes is of a limited nature; hence an increase of growth would not be attended by beneficial consequences. Potatoes cannot be used to the same advantage as any of the varieties of turnip, as food for horses and cattle; so, of course, their cultivation in every county must necessarily depend upon the quantity required to supply the consumption of the people. Hay has generally sold at 18d. per Scotch stone, or 6*l.* 15s. per London load. Labour is not advancing in value, as was evident at the Dunbar hiring market on Tuesday last, where many servants were not engaged.—*June* 3*d.*

ENGLAND.

Northumberland Quarterly Report.

From the middle of February to the latter end of March, the weather was mostly fine, fresh, and dry; consequently very favourable for getting in the spring seed, and ploughing such lands as the severity of the winter had prevented. By the first week in March, all the lands, cleared of turnips and ruta baga, were sown with wheat; and, during the remainder of the month, the peas, beans and oats, were nearly all sown. The month of April was frosty, with repeated showers of snow, hail or sleet; but of such short duration as not to impede, in any great degree, the operations of husbandry; and

and the barley and clover seeds were, in general, got in before the conclusion of the month. This weather, so ungenial to vegetation, checked the growth of autumn sown wheat and clovers, which were uncommonly backward at the latter end of April; but the beginning of May, like that of last year, brought with it mildness and warmth, the consequence of which was, that every species of crop felt its beneficial influence; and vegetation proceeded with such rapidity, that its daily progress was very perceptible; and, at present, crops of every description are looking well; but this aspect may be soon changed, especially upon the dry lands, by a continuance of drought.

In last report, it was mentioned, that though common turnips were materially spoiled by frost, yet ruta baga remained uninjured. At that time it appeared so; but, in the months of March and April, it was found that the ruta baga had received material injury; for, though not rotten, like common turnip, yet it was spongy and juiceless, and deprived of its feeding qualities, as was proved by some sheep gaining no weight, which had their food cut and weighed daily for some weeks. This was not a solitary instance; for the same effect was experienced by many others besides myself. Khol-rabi seems to stand frost equally well with ruta baga, from the trials I have had for two years; but hares are so fond of it, that they did not leave a whole plant in an acre, by the beginning of January; and, from the great numbers in this neighbourhood, its culture will be necessarily abandoned.

The demand for ruta baga seed is this season unprecedented; not a fifth part of what is wanted can be supplied.

The last three weeks of dry weather has been extremely favourable for cleaning the turnip fallows upon dry light friable soils; but those of a stronger texture have gotten into a state of stubborn cloddyness, which nothing can reduce, unless a sufficiency of moisture is received. The produce of every species of grain is generally complained of; and there are very few corn-stacks remaining in the stackyards, even of the largest farms; and of those, most of them will produce little grain, a considerable portion of the injured wheat of last year being unthrashed.

From the failure of turnips, the market for fat was for several weeks overstocked, and the prices reduced; but, for the last three weeks, fat cattle have been sold from 8s. to 8s. 6d. per stone (of 14 lib.) sink, and sheep for 9d. per lib. sink.

The corn markets have been rather dull for some time past, probably owing to the hopes of importation from America.—*24th May.*

Letter from Wales, 26th May.

'We had a most favourable seed time, the whole month of March affording us just such weather as we could wish. At that time, there was the prospect of an early spring; but April gave a check to vegetation, which, till lately, has not been overcome. The weather, though cold, was not however too wet, consequently the growing crops were not so much injured as might have been expected; and,

as the month of May has been warm with gentle showers, fields at present look as well as ever I remember to have seen them.

'Corn markets have been stationary for this last quarter for good grain; and as for that of bad quality, it could not be sold at any price; so, most of it has been given to horses and pigs. Cattle of all kinds have sold well this spring, a great demand having prevailed from the east. Cows and calves, in particular, have been remarkably dear, as also ewes and lambs. Horses are in great request, and so are pigs. For some years past, large importations of the last article have been made from Ireland, by vessels coming to Newport and Cardiff for coals, which was rather against us; but, of late, few have arrived, which of course has raised the price. Nothing as yet can be said concerning the value of wool, although a great many flocks have been clipped. A great breadth of land has been planted with potatoes this season, as that root is becoming more and more a favourite with the lower classes of the people. Some ruta baga is sown, and great preparation is making for sowing an increased quantity of common turnip.'

Letter from Scarborough, May 26th.

'The other day I took a ride to Whitby, and thinking that a few remarks on the state of rural matters in the country betwixt the two places may not be disagreeable, I venture to offer them for insertion in the Farmer's Magazine.

'In the first place, it did not appear to me that what is properly called Agriculture was much attended to in the district which came under my observation. For the first six miles from Scarborough, almost the whole land is kept in grass, in which state it seems to have continued for a great length of time, though the slightest doubt need not be entertained of obtaining ample and rich crops of corn, were the plough to be introduced, and sufficient culture bestowed. But the previous question is, whether the tenants make more under this everlasting grazing system, than they could under the system of alternate tillage? and, under the circumstances of the case, I must suppose that the greatetst profit will be returned from the grazing system, especially in the neighbourhood of large towns. But, be this as it may, the grass which I saw was exceedingly rich, though the ridges of the several fields were extremely irregular, and of all sizes and dimensions. The small quantity of land in tillage appeared imperfectly cultivated; as an instance of which, several tenants were applying lime to fallows, which had not received the second furrow, and which were as full of quickens and other root weeds, as the soil could contain. Some potatoes were planted; but there seemed little ground preparing for turnips. Indeed, from the small extent of tillage land, that valuable root cannot be cultivated extensively.

'The ploughs at work appeared to be well constructed, and were drawn by two horses, though these were generally badly harnessed, and in poor condition. I should have mentioned that the enclosures are very bad, and that they are all formed by hedge and ditch.

'The

The stock depastured in them was a mixture of cows, bullocks, and sheep; and though the grass be of the richest quality, as already said, there does not seem to be much enterprize or action among the possessors.

'The next seven miles of the road is through a barren heath, altogether uncultivated; and, indeed, of a quality hardly capable of being cultivated with any advantage. The soil is a poor thin silly clay, destitute of every ingredient by which it can be converted to useful purposes. There are no enclosures, hardly any roads, at least none that are in a state of repair, or which afford evidence of having been repaired. In fact, this is the worst part of Yorkshire; worse, indeed, than the Highlands of Scotland, and of small advantage to those who are its proprietors.

'The remaining part of my journey was more agreeable, as the soil adjoining to Whitby is a sharp clever loam, and tolerably well cultivated. The grass system is adopted, but not so extensively as on the Scarborough side; whilst the enclosures are better, and the fields in a more regular shape. I only saw two small ricks of corn; but the hay ones are more numerous. Their way of building and cutting down hay ricks deserves to be admired; and, certainly, the English practice, in every thing respecting the management of hay, exceeds that of Scotland very considerably. There is little business going on at Whitby, and few ships in the harbour.

'There are two fairs at Scarborough in the year, one in May, and the other in November, for the sale of all kinds of live stock, and for hiring farm and house servants.'

Letter from a Farmer near Wakefield——May 27.

'The heavy falls of rain and snow during the winter months prevented field labour from going on till the latter end of February and beginning of March, when a favourable change of weather took place; and no interruption was given to work till the spring seed was completely finished, and that in an excellent style, except on a small portion of heavy land, sown with turnips, and ate in the wet season, which turned up very hard, and wrought unkindly. But the season, though dry, has been favourable; having little frost at night, whilst the mild rains, lately fallen, not only afford the prospect of a plentiful crop of hay, but have been highly beneficial to spring grain. At the end of February, wheat looked very bad indeed; and a good deal of land was sown again with spring corn. The seed being very thin and lean, and the weather uncommonly wet, it had not strength to root; and, in consequence, either perished by wet, or was thrown out by frost. Much, therefore, of the crop upon wet land is thin upon the ground, though greatly recovered by the late dry weather; and upon the whole, at present, promises to equal an average one.

'I was last week down in the East Riding, about 60 miles below Wakefield, and never saw their wheats more promising. Spring grain was only just out of the ground, and some newly sown. The present weather will be highly favourable for it.

Our markets are dull for all kinds of grain, and rather upon the decline, except for fine fresh thrashed wheat, which is not plentiful. There is a good deal of barley left in the corn merchants' hands, of an ordinary quality, which is getting very much out of condition; and of course will be fit for nothing but cattle, except the distilleries are allowed to work. Wheat is selling from 9s. to 13s. per bushel; oats, 3s. 6d. to 5s. per ditto; barley, 3s. 6d. to 5s. 6d.; beans, 7s. to 8s. per ditto. Our fat cattle markets are well supplied, though the price of choice beef and mutton is high, but expected to be lower. Beef, 8s. to 9s. 6d. per stone of 14 lib., sink offal; mutton, 7½d. to 8d. per lib., sink, without wool.

The season has been so very favourable for cleaning the fallows, that much of the land fit for turnips is clean, and ready for the reception of the seed. Indeed, some of the roota baga is already sown; but little of that sort is cultivated here. I give the preference to the turnip rooted cabbage, as it gives more time to get the land clean before planting. We sow the seed on a small patch, made clean and fine, about the 20th April, and plant out the ridges about the 20th June. They afford good food for early ewes and lambs in March, from the young shoots; and when these are ate off, the bottoms are superior to any other root I have yet found for feeding cattle. I gave my milk cows, as well as a few I fed for the butcher, common turnips till the end of February, then roota baga till 30th March, and lastly, turnip rooted cabbage, which served to the 12th May. The cattle fed much faster, and the cows yielded more butter on the last root than either of the former. I fear, however, I shall not succeed with them this year; the season having been so dry since the seed was sown, that the plants were almost all destroyed by the fly when in a seedling state; and those that remain are so weak, that I fear they will not be worth transplanting.'

Yorkshire Quarterly Report.

The weather, till of late, was rather too dry for the crops of spring sown grain; but being tolerably free from frost, with latterly a copious supply of rain, the fields will probably soon put on a more flourishing appearance. Oats, and beans in particular, are rather short and defective. The crops of barley in general look best, and cover the ground well. Not so the wheats, few of which have a full appearance; especially those after clover on strong soils. The report of the average prices of grain in Doncaster market yesterday, is, best wheat, 11s.; rye, 8s.; oats, 3s. 6d.; beans, 8s. 4d. per bushel of Winchester. The price of grain has recently declined considerably; attributable perhaps to some importations from America already arrived, and more expected. Large quantities of oats are arrived at Liverpool, &c. from Ireland and other parts. It is not supposed that much of any sort of grain is in the hands of merchants; but from apparent circumstances, it may be presumed, that any fear of scarcity is, for the present season, removed. Potatoes were in the autumn and winter, much in demand and at a good price, but

but turned out in the spring very plentiful, and in some markets scarcely saleable at any price; at present they are worth about 28s. per bushel upheaped.

The stock of lambs is abundant; and fat and lean sheep sell well, though some decline in the price of fat cattle and sheep was felt at the last market at Wakefield. Lean cattle are at moderate prices. Cows for milk, and pigs, are unusually dear. Best beef, 7½d.; mutton, 8d.; veal, 7d.; and lamb, 9d. *per* lib. of 16 oz.

A sudden fall in the finer wools has proved a proper punishment for the greedy speculators; yet wool of all sorts is at better prices than formerly. Many sheep are already shorn. Flax is rather unpromising, as also meadow grass; yet old hay is plentiful. Good horses of all sorts are extravagantly high. The fallow ground is in a backward state, notwithstanding the remarkable fineness of the season for that work.—*May 29th.*

Lancashire Quarterly Report.

It is understood that very little corn is now in the hands of the growers, as their farms are small, and capitals of course not equal to speculations in the article. Last year's crop was pretty good. Prices of grain as follow; best Wheat, 63s. per load of 4½ Winchester bushels, or 280 lib.; Oats, 30s. per load of 7½ bushels; Beans, 32s. per load of 4½ bushels; Oatmeal, 46s. per load of 240 lib. In the spring, tares sold as high as 1*l.* per bushel, and grey peas 10s. per bushel. Potatoes imported from Scotland for seed, sold at 6s. per load of 22½ lib.; but lately at 4s. per load. Best beef and mutton, 9d.; veal, 8d.; lamb, 10d.; and butter, 13d. per lib. avoirdupois; cheese, 70s. per cwt.

Fat cattle are very scarce. Lean stock looks generally well, notwithstanding the want of grass occasioned by the dry weather: they sold very high at most of the fairs, but are now rather lower. Very few sheep are kept in this part of the country; ewes with lamb, from various parts, are sometimes bought in at the latter end of the year, which are at tolerably good prices. Horses have kept steadily high in price for some time. Pigs also are dear.

Respecting the spring fallows; potatoes have been planted a week or two ago. Some farmers have also sown a few Swedish turnips; but those roots are cultivated here on a very small scale. Of rape or cole, little or none is grown. The growing wheats look so ill, that many farmers have harrowed barley in upon their wheat lands, though some crops sown after potatoes are very flourishing. Barley in general is only lately sown, and some still remains to be put into the ground, owing to the late seed time, so long prevalent in this county. The sowing of clover and other seeds, is managed in so slovenly a manner, that no satisfactory account can be given of them. Indeed many use no seeds at all; but, when the land will not grow corn, let it lye, and take no further care about it. The season was remarkably favourable for the sowing of oats, which are now doing very well since the rain, before which they were suffering

for want of moisture. The summer fallows in general, are in a backward state; for, though the weather has been fine, it is not the general custom to plough soon, and hardly ever, before winter; and the soil being light and hilly, is liable to be washed very much down the hills, during the rains of winter and spring.—Little or no flax is grown in this county.——*May* 29.

Norfolk Quarterly Report.

THE month of March produced remarkably fine weather, which afforded the farmer an opportunity of getting a great part of his Spring corn sown in a very good and husbandman-like manner, particularly on dry soils, where the turnip crop had been fed off early in the season. April, on the contrary, proved cold and wet; more unkind for barley-sowing on the strong lands than ever known. Very little business was done in the field that month, and that little not well done by any means, owing to the continued heavy falls of rain. May proved hot and dry, which greatly improved the growing wheats. At present, they promise a good crop, look healthy, and, excepting a small portion, are considered a full plant. The barley crop varies much in appearance; the part sown in March never looked better; and that sown in April, on the dry part of this district, looks extremely well: but a sad reverse, in the latter part, fell to the share of the heavy-land farmer. From intense wet they suddenly became intensely dry, on which account they are rough and cloddy. In such a state have they been sown, and in such a state do they remain, not having moisture sufficient for more than half the seed to vegetate. However, that part which comes under this description, fortunately, is not very extensive. Both peas and oats show a good healthy colour. Still, every description of corn, as well as grass, is considered, at this period, to be much in want of rain. The hay crop will certainly not be so abundant as last year. It had the appearance of being great, the latter part of April; but the severe drought of this month has shortened it much.

The grain markets have been declining in price for these three weeks past. Wheat has fallen from 5l. to 90s. per quarter; Fine Barley from 44s. to 34s.; ordinary quality scarce saleable at any price. Oats continue pretty steady in price; Peas seem without demand; Beans have fallen in price from 60s. to 50s. per quarter. Little variation in the value of butcher-meat since last report. Beef sells from 8d. to 9d. per lib.; Mutton, 7½d. to 8d.; Veal, 7d. to 8d; and Pork 8d. to 9d. per lib. The crop of lambs this year is considered great. Store sheep are reckoned full 3s. in the pound cheaper than in March. Nothing has yet transpired about the price of wool. The principal part of the land intended for turnips is in a forward state of tillage.——*May* 29.

Essex Quarterly Report.

THE appearance of wheats are not quite so promising as in the early part of the season; and, at this time, they are getting light, from the dryness of the weather. On the good lands, there is still a fair prospect of a full crop; but the light and poorer soils have lost plant, and have a very unproductive appearance.

The

The forward ſown barley, being chiefly on the ſtronger ſoils, has a very prolific appearance; but that which is after turnips, is ſuffering much for want of rain. From the inundated ſituation of the fens, a greater quantity of oats has been cultivated than uſual, which has much diminiſhed the quantity of barley. Oats, in general, are a full plant; and, notwithſtanding the dryneſs of the ſeaſon, are likely to produce an average crop. Peas and beans, at this time, look quite well; but a ſmaller quantity of peas has been ſown this ſeaſon, owing to the failure of the preceding crop, and being conſidered in this county as hazardous grain. Rye, in moſt places, has the appearance of being very productive. Tares, though in ſmall quantities, are very good. Turnip and rape ſeed look extremely well; and a larger breadth of the former is growing at this time, than known for ſome years paſt. Trefoil, clover and ſainfoin are not ſo good as was expected, owing to the want of ſufficient moiſture. Graſs, on the forward meadow land, is not more than a middling crop; on the poorer ſoils, it is very indifferent. The fallows, where the farmers have been active, are in a good ſtate; but, in many places, where they were in the leaſt neglected, (and which is the caſe on all heavy lands), they are in a backward ſituation, and very difficult to proceed with.

Flocks, in general, have had a good fall of lambs, which are in a thriving condition. Neat ſtock, that is, fat, is ſcarce, and ſelling at very high prices. Lean cattle are much in demand, and horſes of every deſcription are dear. The ſtock of wheat on hand, for the ſeaſon, is not plentiful; but, from its decreaſing price, a ſupply equal to the demand is generally at market. What barley there is on hand, is of inferior quality, the beſt being nearly conſumed by the maltſters. Oats, in our country markets, are not plentiful.—*May* 31.

Letter from London, 31ſt May.

'During the laſt quarter, corn of all kinds has arrived in great abundance from every quarter of the kingdom; and, of late, large importations, chiefly of oats, have been made from Holland. The political occurrences which have taken place, are very diſcouraging to the ſale of corn; and the varied regulations of Government have kept the buſineſs in a ſtate of conſtant agitation and perplexity; indeed, the recent dilemma in American affairs is likely to prolong the difficulties of the trade.

'The general character of the harveſt induced the expectation of much higher prices at this time; but it would appear, from the ſtocks ſtill remaining in the hands of the growers, that the produce was rather underrated; though the reduction in prices is more to be aſcribed to the political changes, than any apparent abundance at home.

'There are but few complaints upon the growing wheats, conſidering what a ſevere and varied ſeaſon they have encountered. The oats and early ſown barley look well; but, on ſome of the wet and ſtiff lands, where the ſowing was backward, the plant wears a very ſickly and unpromiſing appearance. The peas, in ſome diſtricts, have already ſuffered from the inſects; the beans look g h

pretty healthy, where they were well planted. The rains which fell in May, and the warm weather together, have brought forward the grass crops in a surprising manner; and in ten days hay-harvest will be pretty general around town.

Below are the prices at the Corn Exchange here, Monday 29th.

Wheat, English, White	84s.	86s.	88s.
——— Do. Red	75s.	80s.	85s.
——— North Country	75s.	80s.	
——— Dantzic	80s.	82s.	
Barley, Norfolk and Suffolk	32s.	38s.	
——— North Country	25s.	28s.	30s.
Malt, Norfolk and Suffolk	72s.	74s.	76s.
Rapeseed, per last of 10 quarters	50s.	53s.	55s.
Rye	50s.	52s.	
Beans, Small	52s.	54s.	58s.
———Large	44s.	47s.	
Peas, Boiling White	70s.	75s.	80s.
—— Grey	46s.	50s.	
Oats, Potato	32s.	35s.	
—— Poland	30s.	32s.	33s.
—— Feed	25s.	27s.	29s.
Flour, English, per sack	70s.	75s.	

Cumberland Quarterly Report.

Since last report, every kind of agricultural labour has been conducted without interruption; the whole amount of rain which has fallen from February 22d to May 22d being only 2.448. Vegetation has been much retarded in consequence of severe east winds, which prevailed during the whole of April. Wheat, in many parts of the county, is extremely bad: upwards of 100 acres have been reploughed and sown with Lent grain; and a very considerable part is not half a crop. It is with great pleasure I have to inform you, J. C. Curwen Esq.'s wheat promises to be the best in the county. Almost the whole of his wheat is drilled. A few acres are sown broadcast, with a view, I trust, to cast light upon the long contested question, Whether is the Virgilian or Tullian system to be preferred? The readers of the voluminous, and truly useful, works of Arthur Young, Esq., must be astonished at the number of contradictions to be met with on this subject; and the hearers of Dr Coventry must have their *anxiety* for a solution of this inquiry increased, when they find an admirer of the drill culture, (whose candour, impartiality, and love of truth, are equalled only by his extensive and well-digested learning), in the conclusion of his lecture on this subject, adopting the language of academic suspense, rather than of firm and undoubting confidence. Lent grain is generally more promising than it was last year. Potatoes look well. It is worthy of remark, that, in general, wheat sown after potatoes this year, is superior to that sown on fallow. Wheat, 13s. per bushel; oats, 4s. 3d.; barley, 5s. 6d. and 6s.; potatoes, 3d. per stone. Fat cattle, high; lean cattle something higher than last year. Servants, men, 10l. to 13l. 13s.; women, 4l. 10s. for the half year. Inflammatory diseases have prevailed much amongst our horses; and, in many

many cases, have assumed alarming appearances, and been attended with distressing consequences. Had it not been for the unusually dry weather, many farmers, who had their whole stock of horses in the disease, could not have accomplished their work.——1. *June.*

Extract of a private Letter from London, 2d June.

'I really see no prospect of wheat recovering what it has lost in price; though people seem to be getting over the panic which arose from the recent public measures. Oats have fallen 10s. lately; but unless the foreign supply is continued, they may get up a little, especially if we have that demand from your country which some people speak of. Although the growing barley is a good crop, and the stock of old, as well as of malt, small, I do not consider it likely, at this season, to rise; the more especially as it has been determined within these two days (after an investigation of near three months), to leave the distillery laws as they are for another season; and of course, there is little chance of distillation from grain being allowed, under existing circumstances.'

POSTSCRIPT TO SCOTISH INTELLIGENCE.

THE exhibition of models of a reaping machine took place on Thursday the 8th instant, before the Dalkeith Farming Society. Some months ago, that Society offered a premium for the best model of such a machine; also a further premium to the inventor, in case the implement, when constructed, answered the intended object in a suitable manner. Fifteen models, some of them highly ingenious, were in consequence submitted to the consideration of the Society, and minutely examined by a committee specially appointed. As the committee have not yet reported upon the merits of these models, it would be premature in us to give any opinion on the subject; but in next Number the report of the committee shall be noticed in the fullest manner.

When on this business, we cannot refrain from expressing our high sense of the liberal principles and judicious conduct adopted by this young, though thriving Society. Impressed with a strong conviction of the important benefit which would follow from obtaining a complete reaping machine, this Society wisely resolved to hold out rewards, sufficiently extensive, to rouse and bring into action the utmost efforts of mechanical genius. Instead of limiting their final premium to the paltry sums of five, ten, or even twenty guineas, as would have been done by some other respectable public bodies—they handsomely at once offered *Three Hundred Guineas* to the inventor of such a machine as should be capable of executing the important business of reaping. Had this meritorious and public-spirited Society existed when the thrashing machine was first invented, it is more than probable that the inventor would not have remained without patrons and protectors—would not have been left unrewarded by those whom he had so eminently benefited, or been suffered to glide through the vale of life unnoticed and neglected. What is past cannot now be fully amended; but, with submission, we recommend this case to the notice of the

the Dalkeith Society; and in particular, that they would take into consideration a letter in his favour, inserted in the First Branch of this Number. Should the business there mentioned be taken up by the members of that Society, we are almost confident the proposal of our respectable correspondent would meet with the most ample success.

A very large body of agriculturists, from different quarters, dined, on the above occasion, with the members of the Society, by whom they were entertained in the most elegant style. The preses, DAVID WIGHT, Esq., Ormiston, son to that well-known agriculturist, Andrew Wight, Esq. author of the original Scotish Surveys, discharged the duties of his office with much ability. He was supported by SIR JOHN HOPE, Baronet, and ALEXANDER KEITH, Esq., of Ravelstone; and the company (about one hundred and twenty in number) seemed animated with one common feeling, namely, an ardent desire to promote every object connected with British husbandry.

The island of St Helena at one period was dreadfully ravaged by field-mice, which attacked trees, grass, corn, and every kind of agricultural produce, and with the most ruinous consequences. At this moment there are some estates in the West Highlands of Scotland suffering in an alarming manner from the very same cause. If no check can be effectually put to these depredators, their rapid increase may be expected to be attended not only with destruction to the estates alluded to, but to the surrounding district. If any of our readers can suggest the mode of extirpating these vermin, practised in St Helena, or any other direct and effectual manner of doing so, they will confer a particular favour by communicating such information as early as possible.

NOTICES TO CORRESPONDENTS.

THE Draught and Description of a Reaping Machine are delayed till next Number; when we hope, from trials going forward, that something decisive may be given on that important subject.

It is out of our power, at this time, to present our Perthshire Correspondent's *Observations on the Communication of a Constant Reader*; but an early opportunity shall be taken to lay them before our readers.

The observations of a *Moralist* are under consideration; as are some papers on *Soapmakers' Waste Ashes*.

An Essay on Manure, signed *Glaucus*, shall not be neglected.

The Tweeddale Report, and several other articles, were too late.

No. XXXIX. will be published on Monday the 14th August; and our Reporters are respectfully requested to transmit the fullest account in their power, of the state of the crops, on or before the 28th of that month. The Conductor's reason for publishing in August, is to prevent the labour of arrangement from interfering with the harvest operations.

D. WILLISON, PRINTER, EDINBURGH.

THE FARMER'S MAGAZINE:

AUGUST, 1809.

(No. XXXIX.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Management of Harvest Work.

SIR,

THE harvest quarter is always a busy period with the corn farmer, calling for the utmost exertion of his abilities, and likewise for no small portion of his judgment and attention. At that period, the labour of the season may in some respects be considered as winding up, therefore meriting increased diligence on the part of the cultivator; because an error then committed can scarcely afterwards be rectified, whilst, at the same time, the beneficial consequences of good management in the preceding quarters may in a great measure be sacrificed, if the concluding processes are executed in an imperfect or defective manner.

Reflecting upon these circumstances, I am induced to trouble you with the following desultory remarks on harvest management, thinking they may be of some use to many of your readers. The most superficial observer will acknowledge, with me, that there is much room for improvement in every branch of harvest work, particularly in the neighbourhood of large towns, where, from a full supply of manure, the crops are of the greatest weight and value. It is curious, that the occupiers of inferior soils are generally much more attentive in the processes of reaping and gathering of corn, than their more fortunate neighbours, who are placed upon better lands; though, *prima facie*, it would appear that

the crops of the latter are entitled to receive a greater share of the farmer's notice, being more capable of defraying any increased expense which may thereby be occasioned.

In the *first* place, as wheat is the most valuable grain cultivated by the farmer, the usual processes attendant upon the harvesting of this grain, shall shortly be noticed.

Cutting or reaping.—Wheat ought not, on any account, to be allowed to stand till it is quite ripe; because, independent of the hazard from high winds, much of the grain will shake or drop out when carrying to the stack-yard. In cutting it, the reapers should level their sickles upon the ground, and not take too much at one stroke, otherwise a great part of the straw, and all the straggled heads, will inevitably be lost. Small sheaves are also best, being sooner ready for the stack-yard, and permitting the grain to be more equally dried. Indeed, one length of straw is sufficient for the binding rope; though the most of people use ropes of two lengths, and, what is worse, allow them to be filled to the uttermost extremities. A double rope may be made of a proper length, if well taken up at the neck; but, unless that circumstance is attended to, large sheaves will less or more prevail, even under the eyes of the most active farmer. Another reason may be urged in favour of small sheaves, namely, that they are more easily managed at the stack and in the mill-barn,—circumstances of considerable importance, especially when the grain is to be separated from the straw.

Carting or gathering.—The time required for preparing wheat for the stack-yard, depends entirely upon the kind of weather received at the period in question; but, as a general rule, it is better to give it rather too much than too little field-room; because, though this grain rarely heats, in the way very common with barley and oats; it will, if too soon carted, continue soft and out of condition, till the spring quarter arrives; to the great loss of the owner, if he markets it at an earlier period. If the straw, however, is clean, and the weather dry, wheat will, in general seasons, be ready for stacking in six or eight days after cutting, especially if the stacks are not made of an uncommonly large size. It must be observed, that though large stacks have their defects, yet that many benefits follow from building corn in that manner, providing it is in *keeping* condition. A given quantity is thereby soonest brought into the stack-yard; a larger portion is preserved from atmospherical influence, *i. e.* from wetness, whether proceeding from rain or snow, than when small stacks are built; and less damage is sustained from birds and poultry. Besides, large stacks are covered at a comparative less expense, and in a more durable manner, than practicable with small erections.

Building

Building and covering stacks.—A good builder is a most valuable servant, because much grain may be lost by a negligent one. The first quality of a good builder, is to *hing* (ſlope) the sheaves well; and if this is duly attended to, no stack will ſuffer damage in the most adverse weather, even though it should be imperfectly covered. Attention to *hinging* the sheaves is necessary from the foundation,—but particularly ſo at the *easing* or intake; becauſe a defect there may ſerve to drown the whole ſtack. Neatneſs in building, is the ſecond quality of a good ſtacker, there being nothing more deſirable about a corn farm than to ſee a well arranged and conſtructed ſtack-yard. For covering the ſtacks, well drawn ſtraw ought to be prepared; though this is now a more difficult matter than formerly, when corn was thraſhed by the flail. The only remedy, when the ſtraw is ſhort or broken, is to thicken the cover; though in this way the ſtack has rarely a neat appearance. Small well-twiſted ropes of tough oat ſtraw ſhould be uſed to lace down the cover; and theſe being applied in the lozening or dam-board faſhion, will ſecure the cover under the ſevereſt tempeſts. If the ropes ſlacken, as they neceſſarily will do when the ſtack is compreſſed, pains ought to be uſed in retying them carefully.

In the *second* place, the harveſting of barley ſhall be conſidered. This grain is more difficult to manage than either wheat or oats, being ſofter in the ſtraw, eaſier *mou burnt*, and altogether unfit for ſtacking, unleſs in a very dry ſtate. In addition to theſe difficulties, graſs ſeeds are generally ſown with barley, which often renders the preſervation of the crop a matter of difficulty, unleſs in ſeaſons uncommonly favourable. Barley ought never to be cut when in a wet ſtate. In the very beſt ſeaſons, field room for a conſiderable time is abſolutely neceſſary; and one good way of bringing it into condition, is, not to tie it when firſt cut, but to leave it looſe, or what is technically called *broadband*, till the part of the ſheaf expoſed to the air has been deprived of the natural moiſture. It is a great improvement, and forwards the winning proceſs, when the ſheaves are turned over previous to being tyed up; but the danger of allowing grain to lye long upon the ground, muſt always be remembered before theſe proceſſes are hazarded. At all events, a regular examination of cut barley, whether on the ground or in the ſheaf, is indiſpenſably called for, if the owner wiſhes to have it harveſted in good condition.

In the *third* place, a few words may be neceſſary with regard to the harveſt management of oats. The fodder of this grain being a valuable article, much care is called for to cut oats in a proper ſtage, that is, when they are neither ſo green as to hurt the value of the perfect article, nor yet ſo ripe as to extract the whole, or even the greateſt part, of the nutritive virtue from the fodder. The

early varieties of oats are apt to ſhed, when allowed to ſtand long uncut; therefore, it is the beſt way to cut them rather a little quick than otherwiſe. Theſe early varieties ought not to be cut wet on any account, becauſe they are very apt to ſprout, which is not nearly ſo much the caſe with the late ſorts, chiefly owing to the advanced period of the ſeaſon when they are reaped. Late oats may be *gaited* in ſafety at any time when the reapers can ſtand the weather. Perhaps this is an excellent practice with all late oats in every diſtrict where they are not completely ripened; ſeeing that, by following it, the ſtack-yard proceſs may be greatly forwarded. In ſtacking either oats or barley, it is of advantage to have a funnel from the open ſide, and to carry an opening up the heart of the ſtack, from the bottom nearly to the top. In this way, foul air is thrown off; and as both oats and barley are apt to be too much compreſſed, conſequently to gather a portion of heat, this will be eaſily diſſipated by the funnel, before it accumulates to any miſchievous extent. It is rarely a ſafe meaſure to build oats or barley into ſuch large ſtacks as wheat, unleſs the ſtraw is particularly dry,—a circumſtance which ſeldom occurs in this northern part of the iſland.

In the *fourth* place, the harveſting of peas and beans may be noticed. In ſome ſeaſons, eſpecially in thoſe where peas and beans take on a ſecond growth, a very long period muſt elapſe, after the cutting proceſs, before they can be carried with ſafety to the ſtack-yard; but, in other ſeaſons, or ſuch as thoſe experienced in the two preceding years, the harveſt proceſs of theſe grains is not tedious, nor accompanied with the ſlighteſt difficulty.

Cutting or reaping.—Beans and peas ought to be as ripe as poſſible before they are cut; otherwiſe they ſhrivel or cling very much, which impairs the quality of the grain, and leſſens its value. They ought to be cut very low, beans in particular, on account both of corn and fodder, and not to be tied into ſheaves, till the ſucculence in the ſtraw is quite exhauſted. When beans are in drills, the correct method is to give every reaper one drill; according to which method, more work will be done than by any other. If ſome peas are amongſt the beans, as is generally the caſe, one man makes ropes of them for ſix or eight reapers, according to the weight of the crop; and, where peas are wanting, ropes of oat-ſtraw are previouſly prepared, and laid down behind the reapers. Great vigilance is called for in the overſeer, ſo as the cut beans may be regularly roped; otherwiſe, the after taſk of tying the ſheaves will not be an eaſy one. After lying upon the ſurface for ſix days or ſo, it is cuſtomary to tie and ſtook the ſheaves on end; and in this ſituation beans will ſtand the moſt adverſe weather for a long time, providing regular attention is beſtowed to keep them afoot. Peas are much eaſier damaged than beans;

beans; and the only ſure preſervative is, to make ſheaves of a ſmall ſize; in which way, much injury may be avoided.

Carting or gathering.—The only direction required on this head, is, never to bring either beans or peas into the ſtack-yard, unleſs the natural moiſture of the plant be not only completely evaporated, but alſo that the ſheaves be free from wetneſs of every kind at the time they are carried. If this rule is neglected, the moſt diſaſtrous conſequences will follow, rendering both corn and ſtraw in a manner uſeleſs, and cauſing ſhame and confuſion to the owner; which may always be avoided, by exerciſing attentive management.

Building.—Beans and peas can rarely, except in particular dry ſeaſons, be built into very large ſtacks; nor is it either prudent or neceſſary that they ſhould be ſo built; becauſe a large ſtack, if thraſhed all at once, muſt produce too much fodder at one time, which, of courſe, becomes leſs palateable to the working ſtock. If a ſtack of beans or peas furniſhes ſtraw for two weeks conſumption of the horſes upon the premiſes, it is of a ſuitable ſize; and a ſtack of this ſize will ſeldom be a ſmall one.

With regard to building and covering, what is mentioned reſpecting wheat, is equally applicable to ſtacks of every other grain. It may only be repeated, that a well built and neatly covered ſtack-yard, is the greateſt ornament of a corn farm. Indeed, the corn farmer who is careleſs and indifferent in theſe matters, will uniformly be found defective in other branches of management. Moſt of his other operations are out of ſight, or at leaſt known only to his neareſt neighbours; but his ſtack-yard is expoſed to the inſpection of every viſitor that is about him, and of every perſon who paſſes his doors. Should pride, or, more properly ſpeaking, regard to character, not ſtimulate him to the performance of duty in the one caſe, we may ſafely believe that innumerable duties are neglected or imperfectly executed in the other.

Finally, let me mention, and I do it with much ſatisfaction, that the practice of reaping in a comparatively perfect way, has rapidly ſpread over many of the beſt cultivated diſtricts within theſe few years paſt. To ſober and conſidering men, no circumſtance can appear more wonderful, than to ſee a farmer endeavouring to cultivate and manure well through the ſeaſon, ſo as he might raiſe a good crop, yet that the ſame farmer, at the period of harveſt, when Providence had bleſſed his endeavours, by ſending him a good crop, ſhould allow a parcel of mad people to ruſh upon his fields, and to mangle and haſh them down, without regarding the expenſe of cultivation, or the loſs of corn or ſtraw incurred in conſequence of ſuch madneſs. This is a ſubject which may afterwards be enlarged upon; but, in the mean time, I am, yours, &c. ARATOR.

FOR THE FARMER'S MAGAZINE.

Essay on the Question, 'What is the best Rotation of Crops for light Land (Wheat being one), in a late, and rather a moist Climate?'

At prius ignotum ferro quam scindimus æquor
Ventos, et varium cœli prædiscere morem
Cura sit, ac patrios cultusque habitusque locorum
Et quid quæque ferat regio, et quid quæque recuset. VIRG.

In cultivating the ground, two objects ought always to be kept in view: the first is, that there may be obtained from it the greatest quantity of the most valuable produce; the other, that this produce be obtained in such a way as least to exhaust the soil: in other words, that the care of the cultivator, while prompted by an evident interest to the pursuit of present good, be so guided by discretion as not to dry up the sources of future and more lasting advantage. These principles, which bear upon the face of them sufficient evidence of their soundness, are the only basis on which any rational scheme of cropping can be founded. The alternation of white and green crops, which is now sufficiently understood as the leading feature in every judicious rotation, points directly to them both; and it is the clearness of views with respect to them, joined to a suitable practice, as well in the minor details, as in those great outlines, that chiefly distinguishes the active and intelligent husbandman from the merely vegetating slave of indolence and hereditary prejudice. Every thing, here, it must, however, be distinctly understood, depends upon thus going into detail. A mere general acquaintance with the modes of procedure, is nothing, in agriculture. The important part is, to apply the principles that are known, to actually existing cases; and to provide against exigencies that may very readily be overlooked in theory, but of which the real consequence would eventually force itself on the observation; and cannot be undervalued without the most imminent danger. The manner of cropping on particular grounds, will necessarily require to be varied with numerous circumstances of time, place, soil, climate—with diversities as well laid by nature, as founded in the condition of society, which it would be no more prudent to lose sight of, than it would be reasonable in a man beginning to build, to take no account whether he had found a suitable foundation. The question now proposed for consideration, presents a collection of circumstances of this kind; to provide for the meeting of which, without deviating from the general principles of good husbandry, is the object of the following inquiry.

Of various rotations that might be thought of in that view, none

none is perhaps more deserving of attention, than a four-shift course, proceeding thus—

1. Turnips. 2. Barley or oats. 3. Grass. 4. Wheat.

In this course of cropping, short and simple as it is, there seems to be nothing wanting for obtaining the best returns in the given circumstances. If the land has been recently in tillage, or if the way has been opened for the rotation by a previous crop of oats from lea, the proposed course may be entered upon immediately, and with every prospect of success, both because the crops of which it consists are in a happy degree suited to the supposed situation, and as they are made to stand to each other in a relation, upon the whole, also favourable to the general result.

It will not be necessary to prove, that at the foundation of all good husbandry must be placed the thorough cleaning of the land, and the keeping of it in a state as free as possible of weeds. It is equally ascertained of what infinite consequence, for this purpose, is the culture of a turnip crop on all light dry lands. Substitutes for it, in this respect, to a certain extent, it might indeed be possible to find; but there is no crop, with which we are acquainted, from the raising of which, on the description of grounds to which it is applicable, the whole of the same ends are so effectually to be gained, that, on heavier lands, are obtained from the use of naked fallow. While thus, independent of its own particular value, the beneficial effects of a turnip crop extend throughout the whole period of the rotation, it is with particular aptness that the place therein assigned to it is (where that alternation is to be adopted) immediately before a crop of barley. The complete tilth and mellowness of the ground, so properly aimed at in the preparation for that crop, cannot well be procured in a manner nearly so advantageous in any other way, as it may, with a very moderate share of direct expense, merely by being taken after turnip. The operations attending the culture of that valuable root, necessarily induce a degree of pulverization in the soil on which it has been raised, that cannot fail to facilitate very much the formation of a proper bed for the succeeding barley, and which will be far from being useless, should the characteristic circumstances of the situation be in that excess, or should it, from other causes, be rendered necessary, or most proper, to have the turnip succeeded rather by oats. * Though

* A climate, such as that supposed, is undoubtedly far from favourable for the growth of barley. But as the opposing qualities are not understood to be in a degree to prevent the culture of wheat, a kind of grain to which they might appear not less adverse, it was judged

the hardy oat might, without the intervention of this preparatory crop, arrive indeed at maturity, and yield too a considerable return; yet, even for it, the benefit of a previous cleaning of the land is far from problematical, and is especially indispensable in the view of sowing down with grass-seeds, which, in either of the cases alluded to, is the crop next to follow; and it would be a waste of time to show, that, in such an arrangement, there is in any event no want of attention to its interests; it being well understood, that the white crops which have been mentioned are, in the order they stand, precisely the very best and the most suitable stepmothers for grass-seeds. It may also be added, that, from the early period of the season in which grass is usually cut and removed from the field, the most favourable opportunity will be afforded for finishing the sowing of the wheat (which concludes the course), at such a time as to admit of its perfect growth and ripening.

It may be objected to the proposed rotation, that the most valuable crop in it, the wheat, is thrown at the furthest distance from that other crop, the particular object of which is to clean the ground, and, by its meliorating influences, to prepare it for future fertility. The manure bestowed, which, by every rule of good management, will fall to be given in the first place to the turnip crop, will, it may be thought, have so far exhausted itself, ere the following wheat one be put into a situation to be benefited by it, that a considerable deficiency may, in consequence of this, be reckoned upon in the returns. The objection is not without weight. But, on the other hand, it is to be remarked, that the wheat crop, though not immediately succeeding the turnip one, is not placed at any very great distance from it; that it could not, in fact, if sown in autumn, be placed nearer than it is; and that, being divided from it only by one white and one green crop, the prospect of success is sufficiently flattering. The danger is not indeed unknown, to which wheat is liable when succeeding immediately to grass; but the degree of this, it is to be observed, is reduced almost to nothing in the case of grass that is suffered to remain so short a time in the ground; for little, surely, need be apprehended, either from roots, or from the generation of vermin, on the tender lea of such a crop, especially as the second cutting, with the united influence of a hot sun and preparatory cultivation, may be considered as sufficient to correct any incipient bad quality in the ground.

Let

judged unnecessary, on their account, to throw out of view entirely, here, a crop, of which the use might often be convenient, sometimes perhaps highly advantageous.

Let it be recollected, at the same time, that it might be difficult, either by disposing the crops already enumerated in a different order, or by introducing others in addition to them, to form an arrangement that would be on the whole more advantageous than that proposed. If turnips are to enter into the rotation at all, it is quite obvious that they cannot be off the ground so as to admit of an early sowing of wheat. After potatoes, beans, peas, or other green crops that are removed from the fields in the autumn, it is possible that the object here to be had in view might be more nearly effected. But it could seldom happen, that after any, even of these, a crop of wheat could be put into the ground so early as the 20th of September, the period fixed upon as that by which it would be desirable, in the given circumstances, that the wheat should be sown. Various other advantages would at the same time be lost, by the substitution of another in place of the turnip crop. Independent of the high place which this holds as a cleaning crop, it is apparent that the situations are few, in which potatoes could be profitably cultivated to a great extent. Beans are adapted rather to very heavy than to light soils; peas, besides being otherwise precarious, are of very little avail in respect of the melioration of the ground; and, in addition to all, the important uses served by a turnip crop in the feeding of cattle, and consequent increase and improvement of manure, it would not be easy from any other quarter so perfectly to supply.

The same reasons which thus stand in the way of the substitution of any other green crop instead of turnip, in the proposed rotation, appear evidently, though in a smaller degree, to oppose the admission of them into it even by an enlargement of the course. The only considerations that could be supposed to operate in favour of such an extension, being either conveniency, or increased profits; and neither of these, so far as has appeared, seeming very clearly to be gained in the present case,—nay, an increase of difficulty, as one result, being pretty obviously to be thrown by it in the way of adherence to the single point taken here as of almost necessary observation; it is difficult to conceive upon what grounds a cultivator, guided by this rule, could be induced, generally, to make any change of that kind. What would be improper to fix upon as part of an established plan, it is however readily acknowledged may often be very convenient, in conformity with particular occasions, to have recourse to. Such a rigid adherence to system as would exclude the most distinct regard to any circumstance, of whatever kind, that should call for occasional variations, would indicate no great acquaintance

with

with the exigencies of agricultural life, and would be ruinous both to the respectability and the best interests of the profession. A grass crop misgives at some time, let us suppose. The danger of this is probably less, after barley especially, than after any other grain. Still the case may occur; and if it should, what is to be the consequence? Is the entire produce of that season to be lost? Surely not. May not a crop of peas, for instance, rather be taken? and, that as much good as possible may be drawn from a source confessedly bad, if it should appear that, by a mixture of beans in sufficient quantity to support these, the drill system can be advantageously introduced on such an occasion, the benefit of it certainly ought not, and, in proper hands, will not, be lost to the land. Is it required, in like manner (and it generally will be so), that some potatoes should be raised for the family use? Is the want felt, of an additional quantity for the carrying on of stock, in the interval between the end of the turnip crop and the rising of the grass? Or, do adventitious circumstances offer adequate inducement for a still more extended cultivation of them? —the judicious farmer will be at no loss to accommodate himself to such exigencies. In short, the general plan of management is to be considered rather as a rule never entirely to be lost sight of, than as one which must always, in its minutest particular, be servilely obeyed. It is not, that no deviation can ever occur: it will be enough, that these do not violate the principles on which the rule is founded;—that the diverging steps be taken with caution; —and that a path be ever kept open for return.

It will perhaps ere this have occurred, that the occasion will very generally be felt for a departure from the system proposed, more radical than any alluded to. The idea is far from improbable, that nature delights in variety; and that, for obtaining, therefore, from the land the greatest and most valuable produce which it is capable of yielding, it is a circumstance not wholly inept to the purpose, that a change should take place from time to time even among such crops as, in regard to their effects on the soil, may be described as of one character. This, however, it will readily be perceived, is a matter of inferior consideration to a question respecting the extent to which crops of any kind may be taken, without the exhaustion or ruinous deterioration of the ground. That lands naturally of the richest quality, especially if situated in the vicinity of a large town, from which abundance may be drawn of the most fertilizing manure; —that such lands may, for a time almost unlimited, be retained in a state of tillage without becoming unproductive, may be true. But it is still more certain, that this could not be the case on the generality of *light* lands, which neither have those stamina in themselves

themselves of original vigour, and which, in by far the largest proportion of instances, are not situated within the reach of artificial aid. It is true, that, even on the lowest supposition, there will be still to reckon on so much manure as may be produced upon the farm; a resource certainly not inconsiderable; and which, with care in the management highly reasonable to be bestowed, may be so much extended, as to serve with sufficient effect every purpose in a very creditable order of cultivation. It would only be deceiving one's self, however, to imagine, that, in such circumstances, an uninterrupted course of cropping could very long or advantageously be sustained. It would undoubtedly be necessary that the land should at intervals be suffered to rest, and to acquire, from time, that degree of reinvigoration which, in the case supposed, it might be difficult otherwise properly to give. In considering how this melioration is to be effected, it will be necessary to revert to the above stated form of rotation; upon which, as the other incidental strokes, so this feature of greater permanency and importance may, when the occasion requires, be impressed without any considerable difficulty. The change will, in fact, still amount to nothing more than an extension of the course. After the wheat of the last year, the ground, agreeably to the principles laid down, would at all events fall to be occupied, as the two next successive crops, with turnips and barley. This order being then continued just as before, it will only be necessary, instead of grass for cutting, to lay down the second barley with pasture grasses. The land being thus brought into a condition for feeding cattle, it may be retained in that state for such a number of years as are judged sufficient to accomplish the object proposed. It will then be ready to be broken up anew; when the same procedure in every respect may be followed out, as in the first entering on the proposed scheme of rotation.

While, from the remarks thus made, it will have appeared how readily any neceſſary or expedient alteration may be introduced and grafted upon the firſt laid down order of cropping, the inquiry will no doubt have almoſt, in the ſame inſtant, generally preſented itſelf,—With what degree of change, in reſpect of the returns of produce and expenſe of labour, is it to be ſuppoſed that ſuch alteration may commonly be found attended? Or, to ſtate the matter in a way more appropriate to the preſent purpoſe, as in every caſe there will be an expenditure of money, it is in the ordinary courſe of the buſineſs of the world that the deſire ſhould be felt of aſcertaining, in ſome degree, the extent of this, with its proportion to the profits that may afterwards be the reward of its due application. A direction of thought ſo natural and ſo prevalent as this, ſeems to have ſome claim to attention:

and

and though it is not concealed from us how much, in diſcuſſions of that ſort, will always belong to the province of conjecture and gratuitous aſſumption, eſpecially where the ſubject is agriculture, it is not to be conceived but that, even here, ſome ſound information relative to ſuch topics may be obtained. During the proſecution of the inquiry, in any event, an opportunity will be found of adverting to the ſteps by which the propoſed rotation can be commodiouſly introduced, as well as of alluding, as may ſeem neceſſary, to any facilities or difficulties, which, during its progreſs, may be expected to ſtand in the way of, or to facilitate ſucceſs.

Suppoſe, then, a perſon entered into poſſeſſion of a farm of a certain definite extent, ſay of about 200 Scots acres. Suppoſe alſo that this land, from former indifferent management, is rather in bad order: and let the ſituation of it, in the firſt inſtance, be conceived ſuch as to give at once a ready market for the ſeveral articles of farm-produce, and an unlimited command of manure for the improvement of the ſoil. In ſuch circumſtances, it will undoubtedly be the firſt object of the cultivator, to bring his lands with the greateſt poſſible expedition into the moſt perfect ſtate of culture;—in other words, to eſtabliſh, throughout the whole of them, without delay, that form of rotation which he ſhall conſider the moſt judicious. A neceſſary conſequence of this will indeed be, a great enlargement of the expenditure within a given time; but the ultimate profit will be proportionably increaſed, ſince the returns will be more ſpeedy, as well as more conſiderable.

The extent to which land may be ſuppoſed deteriorated from previous bad treatment, admits of ſuch an endleſs variety in degree, that to lay down any general ſtandard to come into uſe on every occaſion of this kind, is neither practicable nor to be expected. It will be ſufficient for the preſent purpoſe to conſider a certain proportion of the farm, to the amount, for inſtance, of three fourths of the whole, as in a ſtate of exhauſtion by long continued tillage. The remainder may be ſuppoſed to be in a ſtate leſs worn out; that is, under graſs of ſeveral years old, but overrun with weeds; and in a condition far from deſirable in grounds laid out for paſture. An approved rotation for the whole may be entered upon by the third year, in conſequence of the following preparatory arrangement.

	FIELDS.		
Years. A	B	C	D
1. Oats,	Fallow & Potatoes,	Turnip,	Barley or Oats.
2. Turnip,	Wheat,	Barley,	Beans.
3. Barley,	Turnip,	Graſs,	Wheat.

In this order of proceeding, it will be obſerved that the firſt [illegible] upon that part of the land in which there are ſtill ſome ſtamina

mina to be wrought upon, is to take from it a crop of oats. The roots of the graſs being in ſome degree reduced by that means, the further pulverization of the ſoil, as well as the cleaning of it, is to be effected by the culture of the ſucceeding turnip, which may be regarded as opening upon this portion of the grounds the propoſed rotation.

On the ſecond diviſion, naked fallow and a potatoe crop are to lead the way to wheat. The extent to which theſe former are ſeverally to be cultivated, may vary probably with different circumſtances, unneceſſary here to be attended to. Let the proportion of each be eſtimated at a half; and let the ſuperior value attributed to that part of the wheat coming after the fallow, be ſuppoſed to compenſate, at leaſt in ſome ſmall degree, the want of a crop in the preceding year.

In the third diviſion, the rotation to be purſued is entered on at once; as is alſo, indeed, the caſe in the fourth; only that, in reſpect to this latter, the common introductory cleaning crop having been left out, it will be proper, inſtead of laying down with graſs, to ſubſtitute a crop of drilled beans after the barley or oats, with a view to the melioration of the ground.

The ſtate of the expenditure, connected with this preparatory proceſs, may ſtand thus.

First Division.

Charge.				Discharge.			
Culture for three years -	L. 375	0	0	50 acres oats, at 13*l.* - -	L. 650	0	0
Manure for turnip, with cartage - - -	625	0	0	50 do. turnip, at 10*l.* - - -	500	0	0
Seed for the different crops -	112	10	0	50 do. barley, at 13*l.* - - -	650	0	0
Rent - - - - -	600	0	0		L. 1800	0	0
	L. 1712	10	0	Subtract	L. 1712	10	0
				Gain	L. 87	10	0

Second Division.

Charge.				Discharge.			
Culture for three years - -	L. 375	0	0	25 acres potatoes, at 15*l.*	L. 375	0	0
Manure to be applied in first & third years - -	937	10	0	50 do. wheat, at do. - - -	750	0	0
Seed - - - - -	98	15	0	50 do. turnip, at 10*l.* - - -	500	0	0
Rent - - - - -	600	0	0		L. 1625	0	0
	L. 2011	5	0	—L. 1625=L. 386 : 5 : 0 loss.			

Third

Third Division.

Charge.				Discharge.			
Culture for three years	L. 375	0	0	50 acres turnip, at 10*l.*	L. 500	0	0
Manure for turnips	625	0	0	50 do. barley or oats, at 12*l.*	600	0	0
Seed	111	17	6	50 do. grass at 10*l.*	500	0	0
Rent	600	0	0				
	L. 1711	17	6		L. 1600	0	0

L. 1711 17 6—L. 1600=L. 111 : 17 : 6 loss.

Fourth Division.

Charge.				Discharge.			
Culture for three years	L. 375	0	0	50 acres barley or oats, at 8*l.*	L. 400	0	0
Manure	468	15	0	50 do. beans, at 6*l.*	300	0	0
Seed	204	7	6	50 do. wheat, at 15*l.*	750	0	0
Rent	600	0	0				
	L. 1648	2	6		L. 1450	0	0

L. 1648 2 6—L. 1450=L. 198 : 2 : 6 loss. *

Which

* In forming this estimate, it will be observed that five ploughs are considered to be employed in cultivating the farm, maintained each at an expense of 100*l.* per annum. Some hints as to the manner of calculating this expense will be found in the Farmer's Magazine, vol. I. p. 46., vol. V. p. 9., &c.

The quantity of manure understood to support cropping for four years, is taken at 25 double cart-loads per acre, valued (including cartage) at 10s. per load. When there is to be any difference in respect to the number of years, a proportional allowance must be made in the rate.

The rent is fixed at 4*l.* per annum. The following are the proportions observed as to the quantity and prices of seed. For oats, the rate is 14 pecks, at 24s. per boll; for barley, 12 do., at 30s.; (where these crops are stated to be convertible, the average price is taken); for wheat, 3 firlots, at 40s. per boll; for beans, 5 do., at 24s.; for turnips, 2 lib., at 9d.; for grass, 18 lib. clover at 1s., 1 bushel rye-grass at 3s. 6d.; for potatoes, 2 bolls, at 8s.

The returns are generally rated low, on account of the supposed bad condition of the ground at this period; though, both here and throughout,

Which ſeveral balances being added together, and the deduction made of the gain on the firſt diviſion, the reſult is 608l. 7s., which is the ſum that will be ſunk during the bringing of the land, in the firſt inſtance, into ſuitable condition, and introducing on it the propoſed rotation, even without taking into the account the reward that ſhould neceſſarily be allowed for the riſk incurred in the mean time, and the ſkill and induſtry employed by the farmer, or, without any allotment being made to meet the neceſſary expenſes of his family, his outlays of money, or the various incidental exigencies of the farm. On all theſe grounds, there may well be added the further ſum of 600l., which, with the former, making a total of 1208l. 7s., will, in addition to all the other expenſes annually to occur, remain as a burden to be anſwered by the profits under the propoſed ſyſtem of cropping.

From the above, it appears, that, by expending the ſum of 1200l., or thereby, upon a farm of 200 acres of arable land, capable of carrying turnips, barley, clover and wheat, the whole of it may be brought into a huſbandmanlike condition in the ſhort period of three years. Thoſe concerned muſt judge for themſelves, whether ſuch a rotation is an eligible one or not, under the circumſtances of ſoil, climate, and markets. The rotation may be varied and extended conſiderably; but enough is already ſaid, to ſhow the propriety of adopting ſuch a one as is now recommended. A. M.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on various Subjects.

SIR,

As you were pleaſed to inſert ſome trifles I ſent you, (no doubt becauſe, at the time, not provided with better fare), I truſt to a recurrence of the like circumſtance, and hope the following will get a place in your intereſting Miſcellany.

In ſupplement to your correſpondent *Clown of Aberdeenshire*, (No. XXXVI. p. 455.), I recommend broom to the attention of your chemical friends, for the manufacture of drink: it is ſufficiently narcotic, diuretic, and ebriating:—and are not theſe the beſt properties of barley-juice, whether fermented or diſtilled? In proof

throughout, as it is the value of the growing crops that it is calculated from, this may be estimated rather higher than would have been given by a stranger, in respect of the assistance that may be had in managing them from the servants and horses, whose whole maintenance and wages have been otherwise accounted for.

proof of the one, its powers are aſcertained as a cure for the dropſy. Dr Mead himſelf relates that he cured a dropſical patient by a decoction of broom, after being thrice tapped. For the others, its virtues were well known to every alewife, when in the practice of brewing her own drop of drink; and I doubt not thoſe gentlemen may fall upon means of diſpenſing the eſſence in different pleaſant and portable forms; and perhaps each perſon may be able to carry a ſhort allowance in a corner of his ſnuff or his vinegar-box.

Broom, it is ſaid, was introduced into Galloway about 1650, from Ireland, by Mr Heron of Heron, as a food and ſhelter for ſheep and cattle during the extremity of ſeaſons,—and, I believe, with good effect. Theſe animals certainly eat it; and, beſides ſatisfying hunger, it makes them dizzy, ſtupid and ſleepy; and I apprehend ſome of your readers will be able to vouch with me, that, to be once ſufficiently in this ſtate, is often equal to ſeveral meals.

Now, for that great deſideratum, the uniformity of weights and meaſures, ſo anxiouſly deſired by all, but hitherto an inſurmountable difficulty, I have a cure infallible: But that muſt be a ſecret till I have ſecured my patent;—without this, counties may reſolve, and Parliament legiſlate, *ad infinitum*, in vain. When good neighbours cannot eaſily obtain ſtamped paper for bills and receipts, they muſt make memorandums on plain paper, or perhaps take one another's honeſt words. In like manner, when meaſures ordained are not at hand, people muſt take ſuch as they have.

My ſecret (but you muſt not ſpeak it) is merely to give to every perſon who has an old meaſure, a new one for it, making a glorious bonefire of the caſt ones, which could not exceed 20 or 30,000l.;—6s. a head on our population;—ſurely a bagatelle in the preſent times, when———

What meaſure or weight may be reſolved on, ſeems indifferent, ſo be it is uniform; but, on account of our great and increaſing connexion with England, the Wincheſter buſhel and hundredweight ſeem preferable; and this is already the meaſure in our border counties, as the Engliſh acre is for land; which is agreeable to the expreſs articles of union 1707. Article 17th requires that the ſame weights and meaſures ſhall be uſed through the united kingdom, as then eſtabliſhed in England; but it ſeems requiſite theſe ſhould be ſquare, not round: The ſquare ones will be leſs coſt; and, if well hooped, and bound at the corners with iron, will laſt long, while every one, poſſeſſed of a foot-rule, may be able in a moment to detect impoſition.

Our

Our peat-fuel is frequently ſo difficult to dry, as not to have its full effect. I think it perfectly practicable, at a moderate expenſe, to finiſh the drying on kilns, either in ſmall quantities at a time, or in whole ſtacks. A common kiln-*pot* ſeems all that is neceſſary:—On the ribs of this kiln let one or more courſes of peat be ſet on ends; or the ſtack may be finiſhed for winter, adding link to link at pleaſure. Cover with dung, ſo as to let the heat and ſmoke circulate through the whole, and eſcape only at an oppoſite end from the kiln. I incline to think the difference of expenſe for carrying peat dry, and half wet, will more than balance the expenſe of this labour.

The meritorious eſſays of Count Rumford will ſhow the different value of fuel moiſt and dry; and the time will perhaps, ere long, arrive, that many perſons will have even dry peats toaſted regularly before being uſed, as the baker toaſts his wood in the oven the night before it is uſed, or the perſon of taſte toaſts his oaten cake.

All fuel muſt not only be dry and heated, but have a tendency to char, before it burns; as a candle muſt warm and melt before it aſcend into flame.

I beg leave further to notice one glaring vexation, which, to be redreſſed, ſurely requires only to be known to thoſe patriots who have power. It is, that though our intercourſe with Ireland is ſet free from duties on horſes and cattle, we are ſhamefully interrupted with expenſes, cuſtomhouſe-fees, and loſs of time,—while phyſical interruptions are haraſſing enough. Purſuing a ſwindler, I had to pay about 18s. 6d. of fees for leave to embark and diſembark my poney; and, returning late, it became neceſſary that it ſhould remain all night in the hold; and what it ſuffered there, during ſo long a period, in a noxious air, of which no one can conceive the ſeverity who has not witneſſed it, I cannot expreſs. I can only ſay, when it came out, it did not ſeem half its uſual ſize, and was feeble and dejected beyond belief.

With beſt wiſhes, I am, Sir, your very humble ſervant,

Dumfries-ſhire, 18th February, 1809. J. G.

P. S. If you pleaſe, you may add, to what you ſaid of Rob Roy, the following anecdote, which was communicated by Maxwell of Straquhan to the miniſter of his pariſh, about the year 1767. Maxwell had joined Roy at the time a price was ſet on his head, and a party of the military were in ſearch of him.

One time, Roy, Maxwell, and others, were quaffing whiſky in the parlour of a Highland ſheiling;—in comes the officer and his party. The officer, on invitation, joined Roy; and the ſoldiers went into the kitchen. The officer proclaimed, of courſe, the wicked actions of Roy, and how much he would give for a ſight of him. Roy added to the officer's ſtatement, and ſaid, as he was lately in ſuch a place, very near, he thought it poſſible the officer

might be gratified. Roy obſerved that, when the ſoldiers went into the kitchen, they left their muſkets out-ſide the door. After a while, ſlipping out, he gave a ſignal; and his party came—ſeized the arms—and made the officer and party priſoners. This was a ſtory of an hour long, when detailed by Maxwell; but, as the perſon who heard it is now of very advanced age, he recollects no more.

If any of your correſpondents could give a conciſe account of Roy, or the heireſs

He ſtole from the Border,
To keep his houſe in order;

the trial, &c. with dates; I am perſuaded it would be intereſting to many of your readers—as would a general account of his clan, the Macgregors. *

Cowal was one of his centres; and I have reaſon to believe the ſong might there be obtained, beſides information relating to theſe marauders,—black-mail oppreſſors of all within their reach, whether they cultivated the ſtubborn glebe, or lived by their flocks and herds. We are almoſt as deſirous to be acquainted with thoſe devils who oppoſed agriculture, as with thoſe better angels who promoted it. J. G.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IT is now univerſally acknowledged, that good roads are eſſentially neceſſary for the improvement of any country; therefore, as it may amuſe, nay, perhaps, inſtruct, in ſome points, many of your numerous ſubſcribers, I ſhall, without further apology, offer you an extract of a curious old pamphlet, entitled,

'PROFIT, CONVENIENCY AND PLEASURE,
TO THE WHOLE NATION,
Being
A Rational Diſcourſe lately preſented to his Majeſty,
Concerning
The High-Ways of England.
By THOMAS MACE,
One of the Clarks of Trinity-Colledge Chappel, in Cambridge.

'To mend high-ways, loe, here the way is ſhewn;
No better way than this, ſhall e're be known:
A firm and certain way, of no great coſt;
In all wayes elſe, their labour's wholly loſt.
The old way ne're could do't, 'twas meer deceit,
As may be prov'd it was a very cheat.

'Printed for the public good, in the year 1675.

'*The*

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* The trial here alluded to, is pretty fully detailed in the Scots Magazine for July 1752. From it, the ſtate of ſociety in this country, at the time, may be tolerably well aſcertained. N.

'*The Order of the Work in Three Considerations.*

'*First*, That all high-roads might be reduced into two coach or cart tracts, allowing convenient ſpace between, which (if thoſe two might be certainly kept firm and good) would be ſufficient for all ſervices and occaſions of travel whatever.

'*Secondly*, That thoſe two tracts be drawn ſo ſtraight as the ſituation of the ground will afford all allong, for ſeveral good reaſons.

'*Thirdly*, I moſt humbly conceive, it might be extremely neceſſary, that (after this two tracts are perfectly compleated) there was a law made for travellers to ſome ſuch purpoſe as this, viz.

'That all travellers, either with coach, waggon, wain, cart, or horſe, coming to the city of London, ſhall keep in the right-hand tract, coming.

'And in their going from the city of London, ſhall likewiſe keep in the right-hand going, viz. on the contrary.

'The benefits and conveniences of theſe three conſiderations will be infinite and unconceivable.

'If there were a ſmart law made, to keep all irregular troubleſom perſons in an orderly way of civility in their travel; and alſo that their puniſhment might be almoſt ſo quick and ſure, as their affront and injury given; then, without doubt, all quarrellings and diſturbances, which in that nature are daily committed in conteſting for the way, (which too often proves mortal, or of very bad conſequence to many), muſt needs ceaſe.

'Beſides, there is another very great benefit by this law, which is, that no man ſhould be peſtered by giving the way (ſometimes) to hundreds of pack-horſes, panniers, whifflers, coaches, waggons, wains, carts, or whatſoever others, which continually are very grievous to weary and loaden travellers; but more eſpecially near the city, and upon a market-day, a man having travell'd a long and tedious journey, his horſe well nigh ſpent, ſhall ſometimes be compell'd to croſs out of his way twenty times in one mile's riding, by the irregularity and peeviſh croſſneſs of ſuch like whifflers and market-women; yea, although their panniers be clearly empty, they will ſtoutly contend for the way with weary travellers, be they never ſo many, or almoſt of what quality ſoever.

'Who if by ſuch a law were ordered all of them to keep in one tract or way, (which they might ſo well do, as not, and no inconvenience to any one of them in the leaſt), I ſay, what an ineſtimable benefit might all travellers enjoy by ſuch a law? which could be prejudicial to no man, nor to the leaſt occaſion of poſthaſt-buſineſs, but an aſſured furtherance.

'For, if the ways were but thus kept certainly firm, clean,

and good; if any man had a mind to travel faſter than that perſon which is juſt before him, how readily and ſafely might he ſtep out of the way, and paſs him by; and ſo as readily ſtep into the tract again at pleaſure, without the leaſt danger of deep cart-ruts, or ſuch unreaſonable high ridges, which now are not poſſible (in many places) to be paſſed over, without menifeſt danger both to man and horſe.

'Nay, I have often known many travellers, and myſelf very often, to have been neceſſitated to ſtand ſtock-ſtill behind a ſtanding cart or waggon, in moſt beaſtly and unſufferable deep wet ways, to the great endangering of our horſes, and neglect of important buſineſs; nor durſt we adventure to ſtir, (for moſt imminent danger of thoſe deep ruts, and unreaſonable high ridges), till it has pleas'd good Mr Carter to jog on, which we have taken very kindly.

'The great neceſſity therefore of ſuch a law, I do conceive, will be moſt deſirable and grateſull to all travellers, who ſhall thus be aſſured to travel in peace, ſafety and quietneſs; ſo that, in his never-ſo-long a journey, he ſhall not once be diſturb'd or put out of his way.

'Beſides many other pleaſures and conveniences, which I ſhall forbear to mention, but leave them to travellers to diſcourſe upon, when this moſt happy day ſhall ſhew itſelf; that then the highways, and the law for travellers, ſhall make all this (and much more) complete, grateſull, and ſatisfactory.

'*The Order of the Law.*

'And as to the order of this law of travellers, if any perſon ſhall happen to be in the contrary way, it ſhall be his part to go out of it, and give way to his oppoſite, or otherwiſe he may be compelled.

'But if any one ſhall be quarrelſome, and oppoſe, or force any other traveller (who is in his right-hand lawfull way) out of it, or injure him upon that account:

'Then that perſon ſo oppoſed, forced, hindred, or grieved, (upon juſt complaint and proof made to the next juſtice of peace, conſtable, or head-officer of the very next town), ſhall have his caſe immediately heard and adjudged, according to the truth of the evidence; and that the perſon ſo offending ſhall immediatly forfeit, and be compelled to pay ſo much to the party grieved or injured, and ſo much to the poor of that pariſh where the caſe is tried: Or, for want of ſuch payment, his horſe may be diſtrained upon till ſuch payment be made.

'*Laſtly*, As to the more eaſy effecting of the buſineſs, it cannot but be thought much more feaſible, to maintain only two tracts, which ſhall conſtantly lie ſtraight, and as it were in a line, than to mend

mend and maintain ways which lie croſs, intricate and confounded, as moſt of our ways throughout England do.

'In the mending of which there is ſuch ſtrange irregularity, by the common menders, that they (in a manner) loſe the greateſt part of their gravel or ſtones; now laying one load here, and then another quite croſs, five or ſix cart-ways aſide, and in a contrary tract; whereas, if there were but only two cart-tracts, they might, with far leſs trouble and coſt, but infinitely more eaſily and effectually be mended, and moſt certainly be for ever maintained; and with a reaſonable charge: As here following, moſt plainly, I ſhall make appear.

'The manner and means by which this ſo needful and profitable work may moſt certainly be effected, with much eaſe, and no great coſt.

'In all humility ſhewing,

'That your Majeſties wayes are not only unpleaſant, cumberſome, and grievous, but alſo very dangerous to the lives and limbs, both of men and horſes, is obvious and apparent to all travellers.

'And in that it has been, and is ſtill judg'd impoſſible to have them bettered, and to continue them ſo, is ſtill the greater grief.

'The conſideration of which, has been an occaſion unto me to exerciſe my thoughts ſo far upon the matter, as thus to conclude, and affirm the contrary, viz.

'That it is not impoſſible, but very feaſible and eaſie, both to have them well mended, and to continue them ſo for ever.

'Yet I muſt needs ſay, that according to the old, common and general way of mending them, it is abſolutly impoſſible, yea, although there were an hundred times the coſt and pains beſtowed on them, as is yearly beſtowed.

'My reaſon is this; becauſe the matter (viz. the coſt and pains) is not ſo much conſiderable, as the manner and order of doeing it.

'The way of doeing is the only thing,
Which here preſents itſelf unto the King.

'Now, as to a more particular explanation, it is to be conſidered, what, and how many cauſes there are of the badneſs of theſe ways: And they are chiefly four.

'*1ſt*, Mire, ſlime, or dirt.

'*2dly*, Deep cart-rutts with their high-ridges.

'*3dly*, Unevenneſſes and holes.

'*4thly*, and *lastly*, looſe ſtones.

'Theſe four things being rectified, your ways muſt needs be good.

'The firſt thing therefore to be done, (which was never neglected by the old way), is to cleanſe the ways thoroughly from dirt, before any gravel or ſtones be laid on.

'Likewiſe all the cart-rutts to be cut down, and carried quite away; they being only the ſlime, greaſe, or (as I may better ſay) the very oyl expreſſed, by the continual grinding and ſqueezing of the cart-wheels, which (according to the old way of mending) were ſeldom or never taken away, but only beat down, and put into thoſe deep holes, and cart-rutts; which, with ſome ſmall ſprinkling of gravel, in ſome places only, or a few ſtones, or baſe ill-favour'd rubbiſh; and all this (very diſorderly and confuſedly) was the principal and conſtant way of mending the high-ways. And thus were they concluded to be well mended; but indeed were made worſe thereby.

'For, ſo ſoon as the great glut of rain comes, the cart-wheels having made way for its reception, inſtead of being hard and firm ground, (which it ought to be), it becomes a quag, or a bog. And this is one main cauſe of the badneſs of our high-ways, in reference to the two firſt inconveniences, viz. mire, ſlime, or dirt, with deep cart-rutts and ridges.

'Now, if theſe two were firſt rectified, as I have declared, viz. taken quite away, the other two might with much eaſe be amended, as here I ſhall declare.

'For example,—

'Firſt, then, let it be ſuppos'd that the ways are thus prepared, ſo that there were neither dirt, nor the ſlime or greaſe of the cart-wheels; and that I might plainly ſee all theſe deep-holes and unevenneſſes, I would not doubt but very well to mend them all, both tolerably and ſufficiently, without the coſt of one load of ſtones or gravel; only by this means, viz.

'Let but my labourers cut down with their mattocks, all theſe adjoyning unevenneſſes, (which are good ſtones and gravel in moſt places, only ill laid), and fill up theſe holes with the ſame.

'Thus only ſhall the ways be ten times better than they were, and firm enough for preſent and future uſe, if they might be always ſo kept clean.

'For the ways, if the dirt were taken off, would in a great meaſure mend themſelves, with a very little looking to.

'Yet I would not be miſtaken, as if I did intend no other mending but this. No. This is but to ſhew how (without the coſt of any new gravel or ſtones, &c.) the ways may be made far better than they are, or ever will be, by all the labour and coſt they uſually beſtow upon them time after time.

'But now, after this thorough cleanſing (and not before), I would have all theſe hollowneſſes fill'd up with the beſt gravel or ſtones that poſſibly can be got for that purpoſe; and where there is urgent need, ſome wood, but not much.

For still I believe (by the way which I shall direct for the

constant

constant care in looking after the ways, when they are once truly mended) if there were neither wood, stones, nor gravel, but only good hard earth (nay plow'd lands themselves) the ways could not possibly be very bad at all; no not in the depth of winter.

'Tis only want of diligence and care,
Which causeth wayes to be out of repair;
And as they'r daily gall'd with wearing,
So must be daily fill'd with good repairing.
This is the only way, no way but this;
And thus a fool may mend all what's amiss
With ease, when once he's shew'd but how; he'l then
Become as wise in this, as wiser men.

'However this may seem a riddle, and impossible; yet I doubt not but plainly to make it appear most true and feasible, when I come to give my directions for their perpetual maintenance, which very suddenly I shall fall upon.

'There is one thing more very considerable in this work, which is, the rounding and heightning the ways in all places where possibly they may be so ordered, the better to keep off the water, which is the great corrupter of all high-ways.

'And to this purpose, care ought to be taken to divert all drains, which usually issue down upon high-ways, and to find them some other passage, if possible.

'Many other curiosities and circumstances there are, as to the compleate and exact performance in this work, too tedious here to be inserted: but they must be left to the wit and discration of the ingenuous undertaker, in the time of the operation, as need shall require.

'Thus far towards mending: Now for maintaining.

'*The certain way to keep and maintain the High-ways firm and good for ever.*

'I will first suppose, that the ways are thus regulated, cleansed, and firmly once mended, according to the order prescribed; and that two days have passed since this work was done.

'Now in these two dayes time, there are pretty deep cart-rutts made again, but in twice two dayes, much more deep; and in a week or fortnight's time, so deep, and with high ridges, that it will occasion a horse to stumble in going across.

'This is the first beginning, and the chiefest cause of the ruine of all high-ways.

'How easily might this be mended, if there were appointed but a labouring man daily to look after them; so far as he might well walk in one day, and back again, with his shovel or rake in his hand, and only be carefull but to turn those little ridges into the cart-rutts again; and the work were done.

'And then again the next day; and so day after day, all the year throughout:

throughout: In which work, he should not suffer so much as one loose stone to lye or continue in either of the horse tracts, to stumble or fall; and in this posture might one man keep his 5, 6, 7, 8, or 10 miles firm, perfect and good, all the year long.

The order of the Day-man, and his constant Work.

'First having his station or allotment given him; how far, or how many miles he is to take into his charge and care, (which may, and must be more or less, according to the goodness or badness of the nature of the ground); I say, he having once settled, and entered upon his undertaking, he shall then, every working day, be up, and upon the high-ways at working time, summer and winter, either with mattock, shovel, rake, scoop, wood-bill, wheelbarrow, or what other tool or implements may be thought needfull for such a work.

'And thus shall he walk and work from morning to night.

'First he shall work half his station one way, for two or three days forewards and backwards, and perform whatever may be most needfull for his days-work there.

'Then the next two or three days, he shall do the like to his other half station, the other way.

'So that once in a week's time, shall his whole allotment be constantly amended: And I suppose one man may look after ten miles very well, in most ordinary good soyls.

'So that by this rule, ten men shall constantly keep one hundred of miles perfect and firm the whole year; which cannot be esteemed a great charge.

'But I suppose it may be objected thus, (and truly), That in some grounds, one man cannot possibly manage ten miles, by reason of the badness of the soyl, &c.

'I answer thus: Then let him (notwithstanding) manage so far as he can, in this manner: Although it be but five miles, viz. his two miles and a half one way in two or three days, and his two miles and a half the other way, next two or three days, more or less, as shall be found by experience fit.

'And if quite through the land the work would require such a charge as this, viz. one day-man for every five miles, what could that signifie?

'Nothing—in reference to so great a benefit to all travellers, and a general good to the whole nation, as I shall declare; therefore ought not to be repined at.

'Yet I am very confident, that in most places, (and but very few excepted), that one man may very well keep ten miles tollerably well, in almost the worst soyls; yet it must be granted, that those worst grounds can never be kept so sprucely fine (or garden like) as may those other sandy or gravelly soyls.

'However it may most easily be conceived, that the constant attendance

residence of a continual day-man, must necessarly keep the very worst of ways so, that they shall absolutly be free from those gross and common annoyances, and most grievous inconveniences, which we find by daily and wofull experience.

'Therefore, I say, let the cost be what it will, that should not deterr us from putting it into practice or tryal. Yet, I believe, I am much about the matter in respect of the charge.

'I am likewise very confident, that after the first thorough cleansing and amending, the ordinary statutable yearly charge, viz. every man's six days work, &c. will suffice; together with those other provisions already design'd and allowed to that purpose.

'Yet, if I be a little out in this, I hope I shall be excus'd when it shall be consider'd, that I am not out in the grand cast of the design.

'But at the first there must be some way found out for more than ordinary charge, to have them once firmly done; and, after that, these constant labouring men shall keep them ever so, at a small expence.

The Conclusion, and very Life of the Business.

'But, *first*, I would have no common overseers imployed in this work: For,

'By their great wisdoms, and their oversight,
'They ne're could see to mend the ways aright.

'Therefore it is most necessary, that for every hundred or two hundred miles, (more or less, as may be thought fit,) there be one surveyor general; some active-trusty-honest man, who should constantly be on horse-back himself, or his most faithfull trustees, riding upon his station, day after day, to see that the day-men-labourers truly acted their parts, according to their orders given.

'And in case of neglect of their parts, in any of these least punctilio's, viz. as to suffer any deep dirt to lye in the horse-track, loose stones, (the great undoer of horses, and most constant occasion of falls,) uneven little knubs, or any holes or cart-rutts unamended, or any other neglect.

'Then he shall have power (at his discration) to punish such labourers by stoping some part of their wages, or by putting them out of that so constant, good, and very easie imployment, and to elect others in their places.

'Which thing will cause them be daily carefull and diiligent; and without such an exact-continual-daily-constant-strictness, and such severity, by sush faithfull and choice persons, (who will not take an office for any end, so much, as to be active, and to see their business well performed), the work will not be done; but otherwise it may, with the greatest ease and pleasure imaginable.'

Having

Having thus furnished you with an extract from this curious and rare work, I may, perhaps, at another time, notice some of the particulars therein communicated. Suffice it to say, at this time, that all improvement is not of modern date, and that many parts of the *Rational Discourse*, presented to Charles II. by Mr Mace, might be carried into execution at the present day, to the great benefit of the public roads, and to the comfort and safety of those who travelled upon them. I am yours, &c. J. F. E.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations relative to Flax.

SIR,

HAPPENING to take up an old newspaper the other day by accident, (the Courier of the 17th October last), I met with the following observations relative to flax. As I have just begun to cultivate some, (for you must know I am but a very young farmer), and never having met with, in any author, the mode of treatment therein recommended, I should wish much to be informed, through the medium of some of your correspondents acquainted with the cultivation and management of flax, how far it would be safe to adopt the mode pointed out, as there are frequently hints on different subjects suggested in this way, more ingenious than practically useful. Begging your insertion of this when convenient,

I subscribe myself, Sir, your very humble servant,
Perthshire, May 1809. C. R.

'*Flax.*—The exposure of flax or hemp to the frost or snow, 'materially facilitates the dressing of it, by destroying the glu-'tinous matter which unites the fibres; and it is now establish-'ed, that keeping these plants a second winter, will reduce, by 'one half, the labour which will attend the dressing of them the 'first year. It is recommended, that, after steeping, the plants 'be either spread to the action of the frost and air, or placed in 'bundles, on their ends, and left in that state till the spring: the 'better they are dried, the less will be the waste in dressing.'

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Peat-Ashes.

SIR,

IN the county of Bedford (at Flitwick), peat-ashes are sold as manure, and are used as a top dressing for clovers, and sometimes for

for barley, at the rate of from 40 to 60 Winchester bushels per acre. They are usually spread during the month of March on clover; and on the surface of the barley lands after the seed is sown. Peat-ashes are also admirably useful as manure for turnips, and are easily drilled with or over the seed, by means of a drill-box connected with a loaded cart.

The crumbs or morsels of peat which break from the spadefuls, are carefully preserved at the places alluded to, and are sold for the same purposes as peat-ashes. But, of peat thus pulverized, a larger quantity per acre is used than of ashes. The method of burning peat into ashes, is nearly as follows.

After the quantity required has been cast, a portion sufficient to kindle a large heap (suppose two cart-loads) is dried, as much as if intended for winter's use. A conical pile is then built and fired; and, as soon as the flame or smoke makes its appearance at any of the crevices, it is kept back by fresh peat, just sufficiently dry to be free from water; and thus the pile is continually increased, until it has burnt thirty or forty loads, or as much more as may be required. The slower the process the better; but, in case of too languid a consumption, the heap should be stirred by a stick, whenever the danger of extinction seems probable.

In case of rain, the workman should be prepared with some coarse thick turf, with which to cover the surface of the cone.

Perhaps the information now given may be satisfactory to A. B. (see p. 177, No. 34. of the Farmer's Magazine). I am, &c.

A FRIEND.

FOR THE FARMER'S MAGAZINE.

On the Use of Soap-Makers' Waste Ashes, commonly called Soapers' Waste, as a Manure. Drawn up by Order of the BOARD OF AGRICULTURE, *and published by its Direction.*

Introduction.—The Board of Agriculture having found, upon inquiry, that the produce of soapmakers' waste ashes, in London and its immediate neighbourhood alone, amounts to above 20,000 tons *per annum*, and is likely to increase, more especially from the use of kelp having been lately introduced into the London market, which furnishes a greater quantity of refuse ashes; and being convinced, from the most accurate information, and the experience of many of its members, that this quantity of valuable manure, if brought into more general use than has hitherto been the case, would be an object of considerable importance to the national agriculture, are desirous of giving all the publicity possible

possible to a circumstance so well deserving the attention of farmers, gardeners, hop-planters, nurserymen and others employed in the cultivation of the soil, more especially those in the neighbourhood of the metropolis, and on the borders of the navigations therewith connected; and, with that view, have resolved to circulate the following observations, collected from the best information which it has hitherto been in the power of the Board to obtain.

Sort of Ash.—The great distinction to be found in soap-ashes, depends upon the sort of alkaline salt used by the soap-boiler. When kelp and barilla are the materials, the ashes are found to be more than twice as strong and effective as a manure, than such as are the refuse of common potash; and to this circumstance may be attributed, not only the different quantities per acre that are recommended, but also the different results which have attended the use of this dressing in different parts of the kingdom, and any failures which may have taken place. The ashes to be procured at London are all made from barilla and kelp.

Analysis.—Mr Davy analysed two specimens of soapers' waste (sent him by Mr Hawes), in the Laboratory of the Royal Institution, and the following was the result.

The waste from barilla gave, in 100 parts,—

Of carbonate of lime, about	76	Tot. calcareous matter,	91 parts.
Of quick-lime, about -	15		
Of gypsum, about - - - - - - - - - - - - -			5
Of common salt - - - - - - - - - - - - -			1¼
Of carbonate of soda - - - - - - - - - - -			1½

The waste from kelp, in 100 parts, gave about 94 of calcareous matter, in the same state as that from barilla; about three of gypsum, and one and a half of soluble saline matter, containing, apparently, nearly the same proportions of carbonate of soda, and of common salt, as in the former instance.

It is obvious, from the chemical nature of soapers' waste, that it will be applicable wherever calcareous matter is wanted in lands, and that it will serve the purposes of liming.

The small quantity of alkaline salt and of gypsum that it contains, will likewise render it much superior to common calcareous matter, as a top-dressing for every kind of grass.

It seems probable, that these ashes will be found of most benefit on soils that abound largely with undecomposed vegetable substances, upon which the alkaline salt will act powerfully. Charcoal also, wherever found, may be rendered miscible with water, which will produce a considerable effect. The ashes proving highly beneficial on peat-moss, and on low spongy meadows, seems to be a confirmation of this fact. On calcareous soils they may not produce an equal result, as one third of the mass of these ashes

ashes is composed of lime. They can scarcely be recommended on dry burning sands.

Such farmers as are in the habit of making composts, will probably use these ashes as a material in forming the heaps; and, so far as earth is concerned, there can be no objection to the practice; but, in respect of dung, it may admit a doubt. In proportion to the quantity of alkaline matter left in the ashes, it will tend to shorten the duration of the effect of the dung; and as the addition of ashes will render stirring and mixing necessary, it merits consideration, whether the better system be not to use these manures separately. It seems adviseable, in the application of these ashes to arable crops, to sow and harrow them in previously to sowing the seed, which will prevent the action of any acrid or caustic quality on the germination of the young plants. The same circumstance will point out the autumn as the proper season for applying them on grass lands, though experiments may be tried with them early in spring. Mr Hawes, from the information which he has received, particularly from Liverpool, where they are eagerly sought after, states, that they are mixed with pond, ditch, and river mud, and used in about four months. This also agrees with the practice of Robert Thornton, Esq. of Clapham, who has used them about four years, and has thereby greatly improved a very sour pasture. In Cheshire they plough them into the land; but an Essex farmer remarks, that these ashes are of so heavy a quality, that the tillage should be shallow.

Effect.—In Surrey, these ashes have been found infallibly to kill insects, (*Malcolm's Comp.* vol. ii. p. 173.) The effect of these ashes admirable both on grass and arable (*Adam's Essays on Agriculture*, vol. i. p. 167.) Destroys slugs and vermin of every description (*Museum Rusticum.*) Mr Mansfield, near Epping, on a poor sour pasture that would not mow, nor would stock eat it, four waggon-loads per acre effected a total change; soil strong, wet, and heavy (*Essex Rep.* vol. ii. p. 246.) Mr Sherwood, of Abbots-Langley, Herts, has used these ashes with very great success mixt in composts. They are very serviceable in new plantations, particularly where the soil is cold. A Noble Lord, a member of the Board of Agriculture, possesses a grass field in Wiltshire, which was manured with soap-ashes near twenty years ago, and the improvement was very great, and has continued so ever since. Two principal farmers near Ealing, Mr Thorne and Mr Knivett, have used them for many years for arable land, with great success and advantage. Robert Thornton, Esq. of Clapham, in some experiments amounting to seven acres, found that these ashes added a load of hay per acre to the crop. The Marquis of Abercorn's bailiff says, his father always considered one load of

soap-

soap-ashes equal to five loads of rotten dung, and particularly improved the soil and verdure. The Reverend Mr Dudley formed, in Essex, composts of these ashes with marsh banks, which were mixed well together, and spread on grass land with great effect. Hence there is considerable reason for believing, that there is scarcely a manure to be procured, that will be found so profitable (price considered) as these ashes, and that the farmers in the vicinity of London, and of all the navigations leading from it, may embark largely in the use of this manure, without the smallest apprehension of loss by so doing; but that, on the contrary, they will find the profit decidedly great, and, by the use of them, may prevent the continual advance of all sorts of manure. Barges bringing lime, chalk, timber, bricks, malt, and corn to London, can get a freight back at twelve hours' notice.

Conclusion.—It is evident, from the preceding observations, that the use of soapers' waste is well known in various parts of the kingdom; but as the quantity of this valuable manure is likely considerably to increase, owing to the more extended use of kelp in the soap manufacture, it would be desirable to have the following particulars ascertained, in a more satisfactory manner than hitherto has been the case.

1. The soils and the crops for which this manure is best calculated?

2. The quantity that should be laid on each per acre?

3. The proper period of the year for laying it on?

4. Whether any mixture should be used with soapers' waste—what is the best mixture—and the best proportions?

5. What are the effects of this article compared with other manures, and its relative value?

Any information regarding these particulars, transmitted to the Board of Agriculture, 32, Sackville Street, London, will be particularly acceptable.

N. B. These ashes may be had by applying to Mr JOHN TROTTER, Dunbar, or Mr THOMAS PATERSON, Prestonpans.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Manures.

SIR,

THE following remarks are on an important subject, and, if they can, with propriety, be inserted in your useful miscellany, I am convinced they will do some general good, both to agriculture and to the community at large.

No article in husbandry and gardening is of more consequence than manure. The labours of the cultivator, and the researches of the naturalist, are more or less advantageous to a district, according

ing as abundant supplies of manure can or cannot be obtained. The sources whence this substance can be drawn are limited by nature, and by various circumstances. The chief supply is from cattle; but as it is impossible to maintain a quantity of these commensurate with the improvements by which husbandry could otherwise be advanced, manure is evidently a most important *desideratum* in every district.

The process of nature in preserving the balance betwixt animal and vegetable existences, is wonderful. The former inhale the effluvia with grateful and salutary sensations, which the latter throw off; and they derive health as well as nourishment from their productions. The latter receive their support and their salutary influence from the exuviæ of the former, and are more or less vigorous according as abundance of these are supplied. To both classes of existences it is an advantage to be relieved of their fruits; and to both, culture and cleanliness are peculiarly salutary.

But this invaluable species of manure is, to our fastidious sensations, so loathsome, that we as speedily as possible banish it from our sight. When men were scattered over extensive fields, this was natural and useful; but, when closely penned together in cities, the same art that preserves them there, and regulates the motion of all their natural propensities, must be exercised in relieving them from this disagreeable feeling. As things are managed in this and in most other large cities, human exuviæ are indeed put out of sight, but that is all; for nearly their whole substance is decomposed in the atmosphere which we breathe; and the remainder, after attaining its last degree of loathsomeness, is deliberately carried under our noses to that situation where alone it can be got quit of altogether.

From the process we observe going forward in the country, in church-yards and elsewhere, where putrid and fermenting substances are neutralized and absorbed without noisomeness and without difficulty; it is astonishing that a similar process should not have been instituted at home. Two things only are necessary, —to have no unnecessary mixture of fluidity, and to supersaturate the exuviæ with ashes, soil, or any carbonaceous matter. The fluid part of exuviæ is known to be invaluable in many manufactures, and cannot be collected in sufficient quantities for their purposes. The sweepings of a house, and the ashes produced in the grate might, without any other assistance, supersaturate the rest. But for the attainment of health and cleanliness, no one surely will grudge (when it is necessary) the trouble of getting sand, or some such substance, to complete this supersaturation. Our artists now bend their genius to every improvement in every object.

object. Can an article of furniture for accomplishing these objects, therefore, be considered as an extraordinary improvement?

To me it appears quite practicable to collect the whole exuviæ of this metropolis, amounting annually to some thousand tons, by such means as I shall suggest. The hand of the magistrate might here, as in most municipal improvements, be useful in the beginning, and in the superintendance of this matter; but individual interest would afterwards, I am persuaded, do the rest very fully.

I would propose to have from twelve to twenty public temples of Cloacina erected in convenient situations, and each under the superintendance of its owner or his lessee. I think these temples ought to be kept clean, by supersaturating and removing every thing of an opposite kind; that they ought to be neat and commodious; of a convenient form, and in such a position, that they should either be on a step, or be a half story up; that the reservoirs should be built round with ashlar, and floored, and have such an inclination of the sides as to make the bottom narrow, which bottom ought to incline towards the back, in which the door or fixture, by which the contents are to be removed, should be placed; and, the bottom being sufficiently raised above the ground below, the cart could be carried under it. A few motions with the shovel would by this means discharge the contents of the reservoir into the cart, which could proceed through lanes and by-paths into the country.

In order to collect the whole exuviæ of a neighbourhood, I would make this distribution a matter of labour and attention. Every morning at an early hour, let the proprietor of the ward reservoir, or his servant, go through and collect the domestic contents. These ought to be collected in each house into a square box, with a lid, in a supersaturated state, which box the lessee would carry with him, leaving another for the use of next day, with a quantity of saturating matter, as ashes, dried soil, &c. He might also collect the fluid exuviæ for the benefit of the manufacturers, in a separate jar; these boxes might be put upon his barrow below, by which he might carry them into the ward deposite, emptying each box therein by a side door, taking care, however, to supersaturate the whole.

As the sweepings of the streets and other rubbish might not be sufficient for all this supersaturation, the carts that carried off the rubbish might, in coming in from the country, bring a quantity of the matter necessary for this purpose, which could be distributed about the ward in the morning by the proprietor or his servant in the returned box. It would be proper to begin with carefully covering the bottom of the box. The top of the contents also, in like manner, should be covered with equal care.

The

The great difficulty to overcome is, to make this a work that persons can go about without difficulty or disgust. Nothing but supersaturation can prevent the last, and a due system of police the first. Penalties for throwing exuviæ out of the windows, and certain immunities secured to the proprietor or lessee of these temples, are necessary. But were the work was once keenly set agoing, a variety of improvements might succeed; and the business, like many others of those that were from the first disagreeable, might be clothed with decency, and even, in course of time, with not unseemly flowers and ornaments.

I beg pardon for being so minute; but it is impossible to expect any advantage without this; for as people recoil from this subject as a thing unfit for notice, they must be convinced, not only of its expediency, but also of its practicability.

I shall conclude with just noticing, that were the system, above recommended, adopted throughout the kingdom, many thousand acres of ground would be made of double their present value. Many thousand invaluable plants, now rare, would be produced in our gardens; the atmosphere of our towns and streets would be purified; and numbers of people not only supplied with labour, but with labour of the most productive kind to the kingdom.

Edinburgh, 19. *May*, 1809. GLAUCUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on Paper Credit.

Sir,

THE old adage of *Ne sutor ultra crepidam* may, with great propriety, be applied to the writer of the 'Essay upon the too great Extent of Paper Circulation in Great Britain, but more particularly in Scotland,' inserted some time since in your excellent Magazine. The gentleman who writes on that subject may, for aught I know, be a *dab* in matters of agriculture, though not versant in the science of political economy. With your leave, I shall make a few remarks on his communication.

He says,—'I shall, therefore, without further preamble, state it, as an axiom universally admitted of, that the paper circulation of this kingdom is vastly too much extended, considering that the public at large have no further security from individuals who choose to pass, or rather *palm*, their bank-notes upon them, than the popular opinion entertained of their respective credits.'

Axioms are not very plenty in the world; and few of them, comparatively speaking, are, as yet, to be found in the science of

political economy. A writer acquainted with his ſubject would pauſe, before he elevated to ſo high a rank what he conſidered to be a truth; but your correſpondent boldly aſſerts as an axiom, what is a matter of conſiderable dubiety among the beſt informed people. It would have been more decent in this gentleman, to have favoured the readers of the eſſay with the arguments which have produced conviction upon his mind of the exceſſive circulation of paper money. To me, at leaſt, it would have been particularly uſeful; for, although I admit moſt readily, that ſome bankers may iſſue too great a quantity of notes, I do not think that the total circulation, upon the whole, is too great for the growing demands of the country. Had he taken the trouble of detailing the reaſons for the opinion he is pleaſed to entertain, I ſhould have conſidered it my duty to have ſtated mine at length; but, as he has kept a guarded ſilence as to his *cauſa ſcientiæ*, or *ratio decidendi*, I ſhall, on the other hand, be equally *mum*.

If paper circulation be too much extended, then your correſpondent ought to have blamed it on account of that over-extenſion merely;—if paper circulation be unworthy of credit, then it merits cenſure, becauſe of its not being good, in mercantile ſlang. When we find fault with the exceſſive tallneſs of a man, we do not do ſo becauſe he happens alſo to be lean. He is too tall, becauſe he is ſo: the property of leanneſs is another fault, purely accidental in the ſame perſon. In like manner, your correſpondent, when he found fault with the over-circulation of paper money, ſhould have expreſſed this unfavourable opinion of it, as founded upon that fact *ſingly*, and not lugged in, neck and ſhoulders, the diſqualification of want of credit. Were all paper as good as that of the Bank of England, ſtill its over-circulation would be an evil; but certainly it is no part of that evil, that it is unworthy of credit. This writer blames a thing, viz. paper money, on account of its poſſeſſing a certain quality, viz. over-circulation, by appealing to its being undeſerving of credit. The truth is, that an over-circulation, and a bad circulation, are two independent and diſtinct qualities; for there may be an over-circulation, yet all the paper be good; and the circulation may be bad, although, in regard to extent, it may be exceedingly limited. It is but fair, to put the ſaddle upon the right horſe.

One would imagine, that all other traders had, before entering into buſineſs, found ſecurity for the amount of their dealings; elſe how comes it that your correſpondent attributes to bankers alone, the fact of producing no other ſecurity but 'the popular opinion entertained of their reſpective credits?' But I would juſt aſk him, does the Eaſt or Weſt India merchant, the great manufacturer, or, in ſhort, the whole mercantile and manufacturing world, find ſecurity to the public for the amount of their engagements?

How,

How, then, does he ſingle out a particular profeſſion, that of banking, and hold it up to the public, as depending upon popular opinion ſolely for its exiſtence? If other trading companies found ſecurity, I ſhould certainly, from a ſenſe of equality, be of opinion, that bankers ought to follow their example; but I can ſee no blame imputable to the latter, for not doing what the former never do themſelves.

I am not diſpoſed, at preſent, to admit an over-circulation of paper, nor to deny the fact; but, for the ſake of argument, I ſhall take it for granted; and then conſider the propriety of either of the modes ſuggeſted for remedying the evil.

The firſt mode mentioned by your correſpondent is, for Parliament 'to paſs a bill, obliging every private banker iſſuing ſuch notes, to lodge good ſecurities to the extent of two thirds of his intended circulation, and levying a heavy penalty from any one exceeding such circulation; as alſo, upon being convicted of ſuch delinquency, the party offending to be, *ipso facto*, deprived of the power of iſſuing bank notes thereafter.'

Your correſpondent ſeems not to know much of the tranſactions of what is called a private banker, or he would know that a perſon of this deſcription does not iſſue notes at all; and, therefore, there can be no reaſon for his finding ſecurity. A public banker iſſues notes of his own; but a private one makes the whole of his payments in paper of other people. What he means by a private banker, I preſume, is in contradiſtinction to a chartered bank; but all are not neceſſarily private, who are not of the latter deſcription.

He talks of the private banker lodging ſecurities to the extent of two thirds of his intended circulation; but he does not ſpecify how that is to be done, or in whoſe hands the truſt is to be repoſed. If the ſecurity is to be in the ſhape of gold and ſilver, locked up in a ſtrong box, then the buſineſs will be conducted neceſſarily at a much greater expenſe than it is done under the preſent circumſtances; and, of courſe, the public, when dealing with a bank, muſt pay that difference. If certain individuals are to become bound to that extent, then, if the banking company fail in buſineſs, the public, to be ſure, will not be the ſufferers; but, what is infinitely worſe, the loſs will fall upon the heads of two or three people, who had come forward out of mere friendſhip. It were much better, in the event of the occurrence of ſuch a misfortune, that the moſt numerous body, the public, and not the friends of the houſe, comparatively ſpeaking very few, ſhould be the ſufferers. If, again, the partners in this banking-houſe muſt give landed ſecurity before they iſſue a note, then many very able people, and men of fortune, from the circumſtance of being poſſeſſed of no

heritable property, are prevented from following the profeſſion, and, of courſe, the public deprived of the manifold advantages attending ſuch an eſtabliſhment. Beſides, we all know very well, that landed gentlemen are the worſt men of buſineſs in the world; and, if no other are to be permitted by law to carry on the occupation of a banker, that ſpecies of trade will ſoon ceaſe to have any exiſtence at all.

But, pray, what does your correſpondent mean by an 'intended circulation?' It may be, that the partners of a banking-houſe find ſecurity to the extent of two thirds of their intended circulation; but what, in the name of common ſenſe, is to hinder them from afterwards increaſing it to ſuch an extent, as that this original proportion will fall to one hundredth part? If this effect cannot be prevented, (and no power upon earth can do it), what the better are the public of the boaſted ſecurity lodged by theſe bankers at commencing buſineſs? Indeed the community will, in all probability, be greater ſufferers than they otherwiſe would have been; for, truſting to the original ſecurity found by the banking-houſe, they have repoſed greater confidence than they would have done in other circumſtances, and, of courſe, become greater loſers. It may be ſaid that, in the puniſhment of the offending party, there is a remedy; but what is it? If the concern be unable to fulfil theſe engagements, how can they pay the fine impoſed upon them by this act of Parliament, without injuring the public? and, if they do pay it, the money eventually comes out of the pockets of the very people whom the ſtatute meant to protect. Moreover, it is ridiculous in the extreme to prevent a banker from iſſuing any more notes, when he is unable to retire thoſe already in the circle. One would imagine, that a ſtatute to prevent the public from truſting a bankrupt, would be a work of ſupererogation. In all theſe matters, individuals are much wiſer than acts of Parliament, and the wiſeacres who framed them.

'The ſecond mode (which indeed I ſhould prefer) would be, for the Legiſlature to allow of no other than the Bank of England notes to be iſſued in circulation in South Britain, with branches thereof to be ſettled in the different large trading cities throughout the kingdom, for the interior circulation and convenience of trade. The ſame plan to be adopted reſpecting Scotland, confining its circulation to the Royal and Old Banks, and Britiſh Linen Company, and branches reſpectively belonging thereto.'

I would take an even bet, that this country gentleman of yours holds ſtock in one or other, or all of the different chartered Companies; elſe why, upon his own principle, need there be any other original or fundamental bank than the Bank of England? This might be the grand trunk bank, and innumerable collateral ones

ones might branch from this parent ſtem, through the country, in all directions. With theſe acceſſions it would ſupply the demands of the north and ſouth parts of the iſland, as well as with the aſſiſtance of the three Scotiſh banks.

But your correſpondent ſeems aware of the objections that muſt neceſſarily occur to his plan; for he ſays, 'Perhaps this limited reſtriction of the circulation of Great Britain might be deemed a kind of monopoly *legally* veſted in the hands of a few, which, if not conducted upon liberal principles, might be unequal to the full extent of circulation requiſite for the country. Yet I ſhould think, that the managers and directors of ſuch banks, taſting the ſweets of excluſive profit, would not fail to erect branches in proper ſituations adequate to a full circulation.' The limitation here ſuggeſted is, without doubt, a monopoly of the ſtricteſt kind, although your correſpondent wiſhes to draw a veil over it. If a monopoly conſiſts of only one houſe being permitted to carry on a particular trade, certainly the Bank of England would be in full poſſeſſion of the excluſive privilege, if all other banks were imperiouſly baniſhed from the face of the country.

Money is one of the great buſineſſes of a mercantile country; and, like all others, is much better in the hands of many, than of a few. Other trades are carried on by a number of individuals; and this of money, for the ſame reaſons, ought to be conducted by as many as find encouragement to follow it. In the number of individuals carrying on the ſame trade, there is a check upon one another moſt favourable in its reſults to the intereſt of the public. If all the grain in the country were in the hands of one great company, it would be in their power to deal it out either in large or ſmall quantities, as they pleaſed. In like manner, if there be but one bank, it lies in its power to regulate the circulation juſt as it liſteth,—at one time to inundate the country with paper money, and at another to ſtarve it into a ſurrender.

In the caſe of a country like this, where the whole circulating medium is nearly in paper, any oſcillation in the quantity of money is attended with the moſt injurious effects to the holders of goods of every deſcription. A merchant furniſhes a large quantity of commodities, at a time when the circulation chances to be great, and, of courſe, pays a high price. The bankers, in the meanwhile, draw in the greater part of their exceſſive circulation; and the merchant is under the neceſſity of ſelling at a moment when the circulating medium is at a low ebb, and, of courſe, is a very conſiderable loſer. A number of banks, however, who cannot poſſibly be actuated by an uniform ſpirit at all times, will prevent this riſe and fall in a great meaſure taking place, and produce as regular a ſtate of money circulation as the nature of the thing

will admit of. As it is, this flux and reflux of the quantity of money in the market, is felt occaſionally, in a great degree, by mercantile people, and, in critical times, is the ruin of thouſands.

Your correſpondent muſt have ſtrange notions of buſineſs; otherwiſe he never would have ſaid that a bank, having a monopoly, would conduct themſelves in a manner moſt advantageous both to themſelves and to the intereſt of the public. If he will take the trouble of looking about him, he will find that the fact is directly the reverſe. It is paſſing ſtrange in him indeed, to ſay, that a banking company, in the poſſeſſion of a monopoly, would give themſelves the trouble of 'erecting branches in proper ſituations adequate to a full circulation.'

It is not in the nature of things, that one great company ſhould be as active and vigorous in the proſecution of a particular branch of buſineſs, as a great number of ſmaller ones. A bank may, like the human body, become unwieldy and indolent from its extreme bulk. In the inſtance of one large bank, the individuals who divide the profits, or, in other words, the maſters, are incomparably far leſs numerous than the ſervants, or thoſe who work for wages. All activity in buſineſs reſides wholly in the former, becauſe of their profits being in proportion to their induſtry; while, on the other hand, the latter are indolent and lazy, becauſe of their reward being fixed and determinate. This ſmall number of induſtrious individuals, acting upon ſo large a maſs of *vis inertiæ*, muſt neceſſarily ſpend a greater part of that induſtry, which, in other circumſtances, would be moſt productive to them, but, in this particular inſtance, totally unprofitable. In the caſe of a variety of banking eſtabliſhments, matters are upon quite a different footing; becauſe the number of perſons concerned in the profits are infinitely more numerous than the labourers for hire. In theſe, accordingly, there is an activity and an induſtry not diſcernible in a large eſtabliſhment; and the only danger is, that from this very induſtry, buſineſs may ſometimes be puſhed to a dangerous extreme.

A great banking-houſe eſtabliſhed in the metropolis, can have no feelings congenial to thoſe of a public living at a diſtance. From being only one, they are naturally egotiſtical and ſelfiſh; and, from their unacquaintance with what is going on in the provincial world, they cannot enter at all into the wants or wiſhes of the community of which they are members. A number of private bankers, on the other hand, from the circumſtance of being ſcattered over the face of the country, and being, in regard to rank in ſociety, more upon a footing with people in their neighbourhood,

neighbourhood, know more of the wants, and are better inclined to enter into the feelings of those who are more nearly their equals. For these reasons, private bankers must be more capable of judging of the amount of a full circulation, and more disposed to augment it in case of its being below the necessities of the country.

Competition is the life and soul of business; and, without it, all trades, however well disposed the partners may be, will degenerate and fall into decay. The improvements that have taken place in the different manufactures within these late years, and the wonderful accommodation enjoyed by the public in every department of business, and, among others, in that of banking, is much owing to this cause. Your correspondent may be perfectly assured, that if all competition were done away, by the establishment of a monopoly bank, he and the rest of the public may bid an eternal adieu to the present agreeable mode of business to be met with in almost all the banking-houses in the country.

Having, with so very little ceremony, censured both of the plans suggested by your correspondent, it may be imagined incumbent upon me to submit to your readers my own cure of an evil, which I do not altogether deny.

I am, Sir, one of those people, who think that the manufacture of statutes and acts of Parliament should be upon as small a scale as possible. It by no means follows, that, because the Legislature pass a law, it must be innocuous in its effects, and beneficial to the public. Many an act, which was supposed by its wise framers calculated to remedy an evil, has either failed in the accomplishment of its object, or, with the removal of an abuse, has planted another of an infinitely worse tendency in its place. Were all statutes, like milk and honey, innocent, I would not hesitate knocking them off by thousands; but when, on the contrary, they may prove injurious, I would be exceedingly cautious in the promulgation of them.

Were it incumbent upon all other merchants and traders to find security to the public for two thirds of their intended business, I should certainly give my vote for banks doing the same thing. But what man ever started the propriety of an East or West India merchant finding this requisite security. If, therefore, other traders, in whose well doing the public are as much interested as bankers, are not called upon to find security, why should bankers be whipped into an obligation of this kind? In a mercantile sense, it is credit alone which connects a merchant or banker with the public; and, if nothing more is required of the former,

than the popular opinion of his soundness, why should more be demanded from the other?

In physics, if land and water be in a state of freedom, they will most assuredly find their level; and, in the economical world, I believe that, if matters be just let alone, they will be corrective of each other. We do not meddle with merchants and manufacturers; and, except in a few instances, we find that the credit they receive from the public is nearly commensurate with their merits. Precisely does the same thing take place in the case of bankers also.

My simple remedy, therefore, of the evil, when it does occur, is just to let things take their course; and the result will be infinitely more beneficial to the public, than all the acts of Parliament which it is possible to make.

I agree with your correspondent, that the subject of his essay, and of these animadversions, is not, in appearance, ultimately connected with agriculture, which it is the professed object of your Magazine to discuss. But, though political economy will not make a farmer, yet I am of opinion that the two sciences mutually assist each other, and that a man cannot be an enlightened husbandman, without knowing something of the principles of this modern study. If no other good were to result from the union of the two, than a conviction of the transcendant superiority, both in an individual and in a national point of view, of agriculture over commerce and manufactures, enough would be gained to the country. Perhaps, at some future period, I may consider this interesting subject in this twofold light, and take the liberty of transmitting the fruit of my meditations to you.

I am, &c. A PRIVATE BANKER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to the Strictures on the Description of Perthshire Husbandry.

Sermo datur cunctis, animi sapientia paucis.

SIR,

AMONG the numerous, able, and respectable correspondents whose exertions have contributed to raise your publication to its present pitch, one has lately appeared, of a very singular cast, the drift of whose communications is not easily comprehended, whilst the language, in which they appear, is of a kind not generally used in decent company. I need hardly say, that the gentleman who signs *A Constant Reader*, is the correspondent here alluded to. In one respect, that gentleman bears some resemblance to Erostratus, who resolved to render himself conspicuous by some great action; but,

but, being unable to achieve any thing remarkably meritorious, he burnt the temple of Diana, that ſo, rather than his name ſhould ſink into oblivion, it might be handed down to poſterity, even on account of his committing a crime of enormous atrocity. In like manner, *A Conſtant Reader* being evidently and confeſſedly incapable of furniſhing any thing for your Work of a practical or uſeful nature, in agreſtical matters, aſſumes the office of cenſor, and criticizes ſeveral performances on ſubjects of a ſpeculative caſt, by ſome of your firſt-rate correſpondents. Such conduct, in no caſe very laudable, is rendered quite inſufferable by the falſe quotations, unfair inferences, dogmatical opinions, and offenſive language which he uſes. He ſeems urged on by a ſpirit of contradiction; keen, beyond any thing hitherto ſeen in the Farmer's Magazine. In the *firſt* place, he attacked the productions alluded to; but, as he did not chooſe to do this in ſuch terms as one gentleman will always uſe when addreſſing another, the authors have hitherto forborne to take any notice of him; being diſguſted, I preſume, by his uncourtly addreſs. Finding himſelf diſappointed in raiſing a ſquabble with theſe gentlemen, he, in your thirty-ſixth Number, falls foul of the 'Comparative View of the Paſt and Preſent Huſbandry of Perthſhire,' Vol. VIII. p. 425, which I ſent you. I had no right to expect better uſage at his hands, than a Judge of one of the ſupreme courts of the kingdom had previouſly met with. Accordingly, to uſe his own words, he 'expreſſes himſelf with freedom' when reviewing that production; a freedom, in truth, unſhackled by either candour or decency. But my ideas of honour not being quite ſo refined as thoſe of the gentleman whom he formerly attacked, I will no more ſuffer my well founded ſtatements to be miſrepreſented, even when that is attempted in ſcurrilous language, than I would endure an inſult from a fool or a fiſhwife, without reſenting it.

At the outſet, *A Conſtant Reader* ſays,—'when I venture beyond my profeſſion, I certainly lay myſelf open to criticiſm. *Ne ſutor ultra crepidam* has been in uſe as an aphoriſm for eighteen hundred years; and I have not ſeen a ſtronger inſtance of its juſtneſs, than this gentleman's conduct furniſhes. Though neither a landed gentleman nor farmer,* he controverts the opinions of ſome of the firſt agriculturiſts in the country, in as dogmatical a manner as if he had ſat in the profeſſor of agriculture's chair for half a century. He does not, however, inform your readers what my profeſſion is; only, they may readily learn from him, that I am not a farmer; as every one of the topics which he is ſo diſſatisfied with my manner of treating, is cloſely connected with agriculture.

He

* See vol. IX. p. 163.

He then deſcends to particulars; and, in the *firſt* place, finds much fault with me for being of opinion, that the climate of Scotland had, of late years, become colder than formerly, and the morals of its inhabitants more 'decayed.'

The paſſage which relates to the growing depravity of morals, he does not quote: for what reaſon I pretend not to know. Every one, indeed, who takes the trouble to peruſe the View of Perthſhire Huſbandry, will ſee, that it contains no ſuch aſſertion: but then, your Conſtant Reader could have done here, what he does in other caſes, he could have perverted ſome paragraph to ſerve his purpoſe. He, however, makes up for this deficiency, by a lengthened declamation againſt the opinion quoted relative to the growing deterioration of climate; and ſcruples not to occupy three full pages of your Magazine, in attempting to expoſe me to ridicule, for entertaining any ſuch notion. And this he does, without any better foundation, than my ſaying, that 'it ſeems to be the opinion of ſome people, that the climate of Scotland had become much leſs genial than formerly.' Though I added, 'it is very queſtionable, whether the alteration has taken place in the weather, or the conſtitution of their bodies,' he very ingeniouſly quotes the whole paragraph, except this laſt ſentence; and fathers the firſt theory on me; at ſame time, imperiouſly calling on me to adduce my proof. But not holding myſelf reſponſible for every opinion which I may talk of, I certainly conſidered myſelf under no obligation to bring forward evidence in ſupport of either of the opinions mentioned. The only point, the *onus probandi* of which here falls on me, is, that there are people of both theſe opinions; and, luckily, your correſpondent ſuperſedes the neceſſity of my doing this, as he avows himſelf to be of the one, and ſtates that the other is 'a cant very common among people now-a-days.' Indeed, he appears to be better acquainted with the cooling hypotheſis than I am; for he tells us, that 'the only legitimate method of aſcertaining the fact of the increaſe of rigour in the climate of this country, is, a ſeries of meteorological obſervations for the ſpace of a century back.' Hence we ſee, that, according to this theory, ſo very ſlow has the deterioration of climate been for the bygone century, that it was perceptible to the ſenſes of a few old people only; yet he tells us, that, in leſs than a century to come, 'this iſland' will, agreeably to the ſame theory, be 'wrapt up in the ſnows of eternal winter.' Now, this information was new to me. The way in which I underſtood my fellow 'croakers' was, that, ever ſince they remembered, the weather has been ſlowly, though certainly, turning leſs genial; but I do not recollect their ever having ſaid, that the ratio of increaſe was to be higher during the enſuing, than it has been during the bygone century.

He

He ſays, ‘ it is really wonderful, that a perſon, with the ſmalleſt pretenſions to common ſenſe, would appeal to the feelings of old people, in ſupport of a particular fact.’ And, a little afterwards, he adds, ‘ the views of both ’ old and young ‘ are regulated, not by any deliberate conſideration of the thing itſelf, but preciſely as they happen to feel at the moment.’ Here we have a ſyſtem of ethics broached, quite diſtinct from any that occurs to my memory: and from what we hear of it, it ſeems not very gratifying to human pride. It deprives man of the uſe of his reaſon, whether founded on his own, or other people's experience; and makes him form his opinion from the impulſe of the moment. In cold weather, he is of the ſame opinion with thoſe who aſſert, that cold is ſtill on the increaſe in our atmoſphere; and that, ſooner or later, our planet will be equally unfit for the habitation of mortals ſuch as we are, as is the planet Saturn. During heat, again, he joins in opinion with thoſe who tell us, that the orbit of our earth is gradually contracting, and, of courſe, is approaching the ſun, into whoſe body it is ultimately deſtined to fall, for the purpoſe of replacing the waſte occaſioned by the conſtant emiſſion of light.

Though I certainly view the opinion of those people who ſuppoſe a continual increaſe of cold in the ſame light with that of the old man, who blamed book-printers for using a much ſmaller type than they did when he was young; I cannot help obſerving, that the only argument A Constant Reader adduces in oppoſition to this cooling theory, is very unhappily chosen. He ſays, ‘ Surely, in proportion as the woods ’ in America ‘ came to be cut down, and the ground brought under a refined cultivation, the climate will be in a progreſſive ſtate of melioration.’ Yet he had juſt before told us, that ‘ when a country is wholly covered with wood, trees will, by reaſon of the ſuperior ſhelter, grow every where;’ and in this way accounts for vegetables formerly growing, where they will not now thrive. He ſays, further, ‘ The fact of the matter is, that the moſſes are the reſult of the fall of theſe woods.’ And in another place he ſays, ‘ The very circumſtance of an accumulation of moſs in the neighbourhood of the ſite of an antient forest, is, of itſelf, a ſufficient reaſon why trees will not now thrive in that quarter.’ Thus the fall of the woods produces moſſes; and moſſes, *i. e.* peat, occaſion woods to fall, and prevent them from riſing again. This is ſtout argumentation. But ſtill this impertinent queſtion obtrudes itſelf upon our imagination,—As decayed vegetable matter is, in every other caſe, of great utility to growing vegetables, when mixed with the ſoil in which they ſtand, why is peat or moſs an exception in cold climates?

He next ſays, ‘ Your correſpondent details a variety of cauſes for

for the late rise in the rent of land; but, after all, he does not think they are sufficient to account wholly for the effect.' Here we have another of his misrepresentations; for, after stating, that the depression in the value of the precious metals, the effects of the late corn law, and the recent improvements in agriculture, had all contributed to enable the tenant to pay a higher rent; instead of imposing my own opinion on the public, I added, 'Still, however, it is a very general opinion, that all those causes, combined, are inadequate to effect such a rise as has of late taken place. It can only be accounted for, by the high price which grain has maintained for several years in the north of Europe.' On this he remarks, 'It does not seem to be attended to by people who pretend to talk on the subject, that the price of grain in England must in some measure be influenced by that of Poland, or any other country in Europe.' Either this observation is pointed at me, or it is not. If it is not, what has it to do here? If it is, I cannot comprehend its drift. I said, that the high price of grain in the north of Europe, which certainly includes Poland, as its produce is shipped from ports in that quarter, was one of the principal causes of the high rent of land in Scotland. So that this observation by your Constant Reader is, in the one case, very improperly introduced; or, in the other, I am blamed for not saying what, in very explicit terms, I had just said. He adds, 'We all know, that the grain market of London, Liverpool and Glasgow, reciprocally act upon each other; and that there exists, at all times, a relative cheapness or dearness among these different markets. The same thing takes place, more or less, over all the different markets of Europe, and of the world. The law of gravitation, in the physical world, is not more true than that of a level in the price of grain.' On this I beg leave to observe, that there is no doubt of the several grain markets in Britain reciprocally acting upon each other under the present corn law, because no prohibitory statute interposes. But betwixt them and the other grain markets of the world, the case is very different. The laws prevent this country from being, as it were, inundated by continental grain, however cheap and plentiful it may be there. And A Constant Reader must know, that however true the law of gravity, or attraction, in the physical world, may be, it is, in certain circumstances, partially diverted from its general tendency. Dr Maskelyne found, that a lump of limestone, in Perthshire, had the effect, in some degree, of counteracting all the rest of the terraqueous globe. In like manner, a dearth in France or Spain would prevent a plentiful crop in the North from having the common effect on the British market; and a plentiful crop in Ameri-

ca,

ca, would prevent a famine in Poland from causing a scarcity in Britain; providing always, that no statutory regulation is brought into play.

Still further, in support of this doctrine, he says, 'If the price of grain be in England as 3 to 1 in Poland, at any particular period, it will be as 9, if the grain in Poland rises to 9.' Again, 'the price of grain is always in proportion to the wealth of the particular country of which we may be talking at the time. By the wealth of a country, I mean its industry: for example,' &c. After insisting on this for some time, he says, 'Your correspondent seems to have a confused idea of what I have just been saying.' But, Sir, I must acknowledge, that I have not got the length of even a confused idea of what he here says. I had entertained very different ideas. I supposed, that a boll of wheat could be carried across the German Ocean, when it cost three pounds, for the same freight as when it costs only one; and the same may be said with relation to many of the other items of expense, as carterage, porterage, custom-house fees, warehouse rent, &c.; the only articles on which a proportionate rise takes place being commission, insurance, and profit.

With respect to his assertion, that corn is always dearer in an industrious country, than in 'a poor one,' I deny it flatly. Grain in Spain was lately four or five times the price it brought in Britain; and wheat is always cheaper in America than with us, though the Americans are much more industrious than we are, as they almost all work with their own hands.

We next have a lecture on my redundant composition. I have given as one cause of the late rise in the rent of land, 'a greater number of people possessing capital sufficient for stocking a farm than formerly, who can turn to no other employment;' whereas your correspondent maintains, that I should have 'accounted for it by the existence of capital simply. An augmentation of capital (he says) supposes an increase in the number of persons possessing it; and when an idea can be expressed by one sentence, it is more philosophical than to do it by means of a greater number.' It is at least more *philological*; but it is rather surprising that one, who could write such sentences as these, should blame me for tautology in the present instance—'It is really wonderful, that a person with the smallest pretensions to common sense, would appeal to the feelings of old people, men or women, no matter which,' &c. p. 434. 'The same thing takes place, more or less, over all the different markets of Europe, and of the world.' p. 435. But the whole proceeds upon a gross perversion of what I wrote. I neither said, nor meant to say, that the capital in the hands of farmers was larger now than formerly (though that is an unquestionable fact);

I merely stated, and I did it in concise and explicit terms, that there were a greater number of people who had capitals adequate to the stocking and improving of farms than formerly, who could turn to no other way of gaining a livelihood;—an allegation very different from the one which he makes. It would have been little to my purpose, to have said that the body of farmers were in possession of a larger capital than formerly, if the most of that capital was in the hands of a comparatively small number; because, then, the effect of competition would have been but trivial.

The assertion, that these competitors can turn to no other employment, he declares to be another error. 'Were this the fact, says he, 'it would prove, that the late rise of rents has been unnatural, and therefore will not last.' Whence he gathers this deducement, I know not; this I know, that no such inference can be drawn from what I have said. Indeed, I do not see why the same causes which have raised the rent of land, may not keep it up, without ruining the farmer. 'I never heard,' adds he, 'till this moment, that all the employments in Scotland were full of hands, and that capital can find no room for its activity but in agriculture.' This is a distant insinuation that I had made these assertions, and that farmers, rather than take land on the terms commonly insisted for at present, will turn tradesmen, manufacturers, or merchants; a transition which he considers as quite easy. He calls loudly for me to prove the contrary of this, hinting, that, if I do not, he will 'make an assertion directly in the teeth' of mine. I frankly submit to this mode of deciding the point at issue;—so the public will judge for themselves.

A Constant Reader proposes another method by which the farmer may find a livelihood, without renting land. If he has 10,000*l.*, he informs us, that he may lend it to some person in trade, and live on the interest. This, I grant, he may do; and, in a short time, perhaps, accept of 2500*l.* in full of all demands. But the far greater part of those who contribute to raise the rent of land, have capitals nearer 500*l.* than 10,000*l.*; and the generality of these, by their skill and industry, in a farm suited to their abilities, are enabled to live much more comfortably than they can do on 25*l.* a year.

But all this altercation must go for nothing; because, whether it would be advantageous for them to do so or not, it is sufficient for my purpose, that the increased number of farmer capitalists do not desert the profession in which they have been bred.

Again, he urges—'It is ridiculous for' me 'to say, that an industrious tenant *could* not make money upon a farm which, upon his leaving it, was let at five times the rent.' I did not say, the tenant

tenant 'could' not make money upon this farm. That is another misrepresentation. I only said, he did not make it. So that it is impossible to infer from my words, which of the two tenants is the 'born idiot.' Most people, who are acquainted with the circumstances, divide the folly betwixt them.

He likewise finds fault with me for stigmatizing kain and bonnage as disgraceful. 'There does not appear to me,' says he, 'any disgrace in a tenant either paying kain, or driving fuel.' That an affront is not worse than it is taken, is a saying which has acquired the currency of a proverb; the meaning of which, if I understand it, is, that where the feelings are not excited, no ignominy attaches;—so that what is considered as disgraceful in one quarter of the kingdom, may be viewed as indifferent, or even honourable, in another. I have heard of a tenant in Scotland, who, when he found the laird in bed with his (the tenant's) wife, took off his bonnet, and thanked the great man for the honour which he thus condescended to bestow on him and his family. Now, in some places of Scotland, a tenant, if he had not considered this attention as an insult, would, at least, have been less grateful for the favour. Again, in some districts, it is a common practice for the farmers' wives and daughters to carry out the laird's dunghill, on their backs, to his bear-seed, as part of their rents; and this prestation is submitted to as a matter of course. But, Mr Conductor, were your East-Lothian belles annually called out in the months of June and July, each accoutred with a creel on her back, to carry out the manure on the landlord's home farm, to his turnip or wheat fallow, I shrewdly suspect, that, at first, they would view it as rather a degradation. For my own part, I never was concerned in paying rent in any other shape than in money: I have, however, heard of farmers, or their wives, submitting to what I thought a degree of meanness, in courting the housekeeper or henwife, for the purpose of having the kind or condition, or time of delivery, of kain fowls changed, so as to be more convenient for them.

But it is evident, that the degree, in the scale of society, where a gentleman places the farmer's character, is calculated for the latitude of some other district than that of which I was then writing; for he himself, when contradicting another of my observations, says expressly, that 'all services, of whatever kind, denote the moral character of the cultivator of the land;' so that, in his opinion, turpitude of character is no disgrace to a farm.

I said, that 'the great number of candidates which appear at every opening, enables the landlords to propose very unreasonable conditions of lease, without deterring offerers,' &c. This, your

your correspondent alleges, cannot happen; because 'the interest of the landlord and tenant are identically the same.' And after occupying a page and nearly a half, sometimes with truisms, and oftener with argument quite foreign to the point in hand, he owns, that 'these absurd stipulations will not deter offerers altogether, but merely keep good tenants aloof.' Now, Sir, this is exactly my meaning, and in fact coincides with what I said.

In criticising what I urged relative to one of those unreasonable conditions, which I specified, he gives us a specimen of his knowledge as a farmer. 'One farm,' says he, 'may be better adapted for pasture, another for turnips and barley, and a third for wheat and potatoes.' See what book learning does! Few mere farmers were capable of making this discrimination.

He next shines as a lawyer, by declaring it to be his opinion, that the law would not sanction the clause of irritancy inserted in leases, in case of the tenant becoming bankrupt; principally because it affected the interest of third parties, who are presumed to know nothing of the matter. But do law courts hesitate to enforce deeds of entail, by which the interests of third parties are as much affected as by the clause in question? It is to no purpose to tell, that these deeds are always registered. A dealer or tradesman cannot send perhaps fifty miles, and pay fees to inform himself, whether or not every landed customer holds his land in property, or only under entail. And do not law courts rigidly enforce the clause secluding assignees and subtenants? Nay, have they not gone much further, by supplying such a clause where it is omitted? Yet, by this, the interest of third parties is more frequently affected than by the other.

A Constant Reader says, it is 'a matter of mere moonshine' whether the landlord or tenant insures the steading. 'If a landlord,' adds he, 'asks 100*l.* a year for a particular farm, and pays 5*l.* *per annum* as the insurance of the steading on the premises, his rent is in that case 95*l.*; and if the nominal rent be 95*l.*, and the tenant pays the premium besides, the case is exactly the same. It is a matter of total indifference, therefore whether the landlord or tenant pays the insurance.' To this reply, that if the landlord receives 100*l.*, his rent is 100*l.*, whether he pays an insurance premium on the onstead, risks accidents himself; but if the tenant pays an additi 5*l.* as insurance premium, the rent is 105*l.* As the pro tor is in law bound to rebuild the houses, in case of destru by fire, he has no better reasons for deducting the amou the premium for insurance from his gross income, than r money, cess or property-tax. Was the tenant on this f to insure his stocking at 5*l.* annual premium, and the land to low

ıim the amount in his rent, what would the real rent be in se? The cases are exactly parellel.

ı aware that I shall be told, this is arguing wide of the because it is evidently the same to the farmer, whe- : pays 100*l.* in name of rent or tack-duty, or 95*l.* under :signation, and, in addition, 5*l.* as a premium for insuring ading. Such reasoning is extremely plausible, and every ınsonant to counting-room ideas; but to persons acquaint- h the general conduct of farmers in treating for a lease, the nce is very great. On these occasions, such prestations rance premium, the moiety of the school-master's salary, ess, the horse-tax, and even (with people who have never) the property-tax, are often overlooked, or, at best, ıttended to, under the impression, that if the farm is so much rent, it will certainly be possible to bring this t trifling item out of it too. Such conduct is no doubt terous in the highest degree. It is nevertheless true, that who, in other respects, by no means deserve the epithet orn idiots,' act in this manner; and proprietors or their must have this in their eye, or why do they insist on such tions?

added, that I 'seem enraged at landlords making part of nt payable in grain, convertible at the county fiars.' In this rage of mine appears, I know not. I have already hat I am not personally interested. I make use of no im- epithet, such as 'idiot,' or 'pericranium—a little con- ' In short, I appeal, Sir, to you and your readers, if ɔssible to conceive more temperate language, than is used paragraph in question. As what is there stated is suf- ly plain to every unbiassed person, and as I have already up so much of your Magazine, I decline enlarging on this further than merely observing, that he seems to know ittle about the subject under discussion. This appears his saying—'It is not against a grain rent that' I 'should s my disapprobation, but against the kind or species of hat is made payable out of the particular farm.' Now, act converse of this is the case. It is not against paying ı this or that particular species of grain, that my objection it is against payment in any species whatever: for as ice of any one species is found to affect that of every more especially in times of scarcity, the ascertaining, by ır price of wheat, for instance, the rent of a farm where s grown, is, at the worst, but an inconsiderable hardship, ıay happen that the price of oats, of which we shall sup- hat the crop chiefly consists, is higher in proportion above

the medium price than that of wheat, in which case the tenant is a gainer by the exchange. 'The land does not produce gold or silver, but grain of some particular kind or other; and therefore,' says he, 'the natural and legitimate return for the use of it, for nineteen years, is a certain part of its produce.'—'If the land be too light to carry a weighty crop, it is silly in him,' the tenant, 'to come under an obligation to deliver a commodity which forms no part of the produce of the land.' From these quotations, it is evident that this gentleman has only 'a confused idea' of the matter; for, though the *ipsa corpora* are not taken, it is still gold or silver, or, what is supposed equivalent, bank notes, that are received.

With respect to what I stated relative to the mode of letting land, sometimes by private, sometimes by public offers, and, in one case, by both methods; he tells us, that 'the right of the landlord to expose his land in any way he pleases, seems to me undoubted.' Had your correspondent thought of this argument sooner, it might have saved a great deal of altercation; and being at least as much to the purpose as the greater part of his remarks, it might have been substituted for them. He may however observe, if he chooses, that it is not the proprietor's right to do this or that with his land, that is questioned. I only glanced at the *inexpediency* of such management; and shall now conclude with observing, that were your '*Constant Reader*' to read with more attention, he would either write less, or, what he did write, would be more to the purpose.

January [illegible], 1809. P——N.

FOR THE FARMER'S MAGAZINE.

Dr Franklin's Idea of the Corn Laws, taken from his Thoughts on Commercial Subjects, *Vol. II. of his Works, published in London,* 1798.

'When an exportation of corn takes place, occasioned by a higher price in some foreign countries, it is common to raise a clamour, on the supposition, that we shall thereby produce a domestic famine. Then follows a prohibition, founded on the imaginary distress of the poor. The poor, to be sure, if in distress, should be relieved: but, if the farmer could have a high price for his corn, from the foreign demand, must he, by a prohibition of exportation, be compelled to take a low price, not of the poor only, but of every one that eats bread, even the richest? The duty of relieving the poor is incumbent on the rich: but, by this operation, the whole burden of it is laid on the farmer, who is to relieve the rich at the same time. Of the poor, too, those who are maintained

tained by the parishes, have no right to claim this sacrifice of the farmer; as, while they have their allowance, it makes no difference to them, whether bread be cheap or dear. Those working poor, who now mind business only *five* or *four* days in the week, if bread should be so dear, as to oblige them to work the whole *six* required by the commandment, do not seem to be aggrieved, so as to have a right to public redress. There will then remain, comparatively, only a few families in every district, who, from sickness, old age, or a great number of children, will be so distressed by a high price of corn, as to need relief: and these should be taken care of by particular benefactions, without restraining the farmer's profit.

'Those who fear that exportation may so far drain the country of corn as to starve ourselves, fear what never did, nor never can happen. They may as well, when they view the tide ebbing towards the sea, fear that all the water will leave the river. The price of corn, like water, will find its level. The more we export, the dearer it becomes at home: the more that is received abroad, the cheaper it becomes there; and as soon as these prices are equal, the exportation stops of course. As the seasons vary in different countries, the calamity of a bad harvest is never universal. If then, all ports were always open, and all commerce free; every maritime country would generally eat bread at the medium price, or average, of all the harvests: which would probably be more equal than we can make it by our artificial regulations, and therefore a more steady encouragement to agriculture. The nation would all have bread at this middle price; and that nation which at any time inhumanly refuses to relieve the distresses of another nation, deserves no compassion when in distress itself.——

'Perhaps, in general, it would be better if government meddled no more with trade, than to protect it, and let it take its course. Most of the statutes or acts, edicts, arrets, and placarts of parliament, princes and states, for regulating, directing, or restraining of trade, have, we think, been either political blunders, or laws obtained by artful men, for private advantage, under pretence of public good. When Colbert assembled some wise old merchants of France, and desired their advice and opinion, how he could best serve and promote commerce? their answer, after consultation, was in three words only, *laissez nous faire*, "let us alone." It is said by a very solid writer of the same nation, that he is well advanced in the science of politics, who knows the full force of that maxim, *pas trop gouverner*, "not to govern too much;" which, perhaps, would be of more use when applied to trade, than to any other public concern. It were therefore to be wished, that

commerce were as free between all the nations of the world, as it is between the several counties of England: so would all, by mutual communication, obtain more enjoyments. Those counties do not ruin each other by trade, neither would the nations; for no nation was ever ruined by trade, even seemingly the most disadvantageous. Wherever desirable superfluities are imported, industry is excited, and thereby plenty is produced. Were only necessaries permitted to be purchased, men would work no more than was necessary for that purpose.'

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Recent Plan for improving and beautifying the hitherto unimproved Parts of the Duke of Buccleugh's Estates in the South of Scotland.

SIR,

IN two former papers which you had the goodneſs to inſert in your 34th and 36th Numbers, I endeavoured to deſcribe the improvements of ſurface draining, &c. on ſheep farms, mole-catching, the conſequences reſulting from theſe, and the newly introduced mode of watering land, as practiſed on the Duke of Buccleugh's eſtates in the ſouth of Scotland. I ſhall, therefore, in this letter, proceed in the plan which I have preſcribed to myſelf.

Ever ſince the Duke came to the eſtate, he has continued to give an unremitting attention to its improvement, by employing men as factors who had the ſagacity to diſcern, and the ſteadineſs to execute plans calculated to promote the common intereſt of himſelf and his tenantry. But it is not my intention (though I could) to run over thoſe of earlier date. I rather wiſh to arreſt your attention, on the meaſures which he has lately taken, to aſcertain, and carry into effect, what may not improperly be called the *maximum* of improvement in thoſe farms, where the tenants, contenting themſelves with ſheep, had little attended to agriculture, or had not carried it to the length they might. Know then, Sir, that, in the ſouth of Scotland, he has two perſons who hold the higheſt official ſituations under himſelf, viz. his chamberlain, or collector of rents, and the maſter of all his works and improvements. It is to the duties impoſed upon the laſt of theſe, that I am naturally led by my ſubject. Yet, as death has lately removed him who held the firſt of theſe offices for many years, (I mean, the late Adam Ogilvie, Eſq. of Hartwoodmyres), permit me to offer, in paſſing, my tribute of reſpect to his memory. It is certainly difficult for a factor to conduct himſelf ſo, as to acquire the eſteem of thoſe who are connected with him; but I can ſafely ſay, that his punctuality in buſineſs, and his ſteady regard for the comfort of the tenantry, and

the

lower orders, have ſeldom been ſurpaſſed. Indeed, the poor about wick mourn him as a friend; and the farmers in Tiviotdale teſ-ed their reſpect in the handſomeſt manner, when, at the Farmer b ſubſequent to his death, above 50 of them appeared in deep urning. How different is this from the death of thoſe who id the faces of the tenantry; whoſe death is deemed a deliver-e, and whoſe memories are curſed! But it becomes me to re-n to my ſubject.

n 1792, a conſiderable alteration having taken place among the ns, in order to come at an equalization of rent, and, in ſome aſure, of profit, among the tenantry, certain rules were de-red for the general management, both of ſtock and crop. t theſe rules, from various cauſes, had not been generally ob-red. A little imp, called Avarice, had taken poſſeſſion of the ſe-ſtrings of ſome, and was willing to receive every profit from ſoil, but averſe to return any thing for its improvement. In-ence prevented others; an averſion to leave what were thought e the good old practices of their fathers, influenced a third; l ignorance, by its willing, but ill-directed efforts, not unfre-ntly threw away money, both to the injury of the perſon him-, and the diſcouragement of his neighbours. It was in this ſi-tion of things that the Duke interfered; and, with a wiſdom l benevolence conſpicuous in his character, condeſcended to di-t the operations of his tenantry,—in thoſe diſtricts eſpecially ere his influence was moſt wanted. Accordingly, about ſeven rs ago, he gave inſtructions to Mr Keir, his maſter of works, ſurvey all his eſtates in Eſkdale, Liddiſdale, Tiviotdale, and kirkſhire, with the view of aſcertaining the extent of ground t ſhould be marked out for improvement by the plough, or by nting. Aſſiſted by Mr William Crawford, author of the p of Dumfries-ſhire, he began his taſk; and, with that impar-ity that marks his character, was neither biaſſed by friends nor mies. Indeed, he conſidered it beſt to conſult with neither, faithfully to ſurvey, and honeſtly to report the reſult of his ervations. This general ſilence which prudence dictated, gave ſmall occaſion for reflection at the firſt; for ſome thought, that y ought to have been conſulted, and others predicted the ruin their ſheep, from their being excluded from the lower grounds. t theſe prejudices have now, in a great meaſure, died away: ſt of the farmers have acknowledged his ſuperior diſcernment; l all feel themſelves ready to own, that his aim was to benefit maſter, by benefiting them. On ſo extenſive an eſtate as that the Duke's, it is natural to think, that the ſurvey I am ſpeak-of, would form the work of ſeveral years; eſpecially as it was ducted amidſt much other buſineſs. But it was at length com-

pleted. Accurate and beautiful plans of the different rivers, where the farms are ſituated, with the projected improvements on each farm, were made out, and tranſmitted to his Grace; and what muſt be peculiarly gratifying to him, is the knowledge he poſſeſſes, that they are everywhere either carried, or rapidly carrying, into execution. But, leaving the outline, let us deſcend to particulars.

The *firſt* thing, then, in this plan of improvement, is *a ring-fence*, which ſeparates the ſheep paſture from the ground deſtined for cultivation. This, according to the Duke's deſire, is always to be of ſtone, in order the more effectually to exclude the ſheep; and is either cloſe built to the full height, and coped with earth or ſtone, or cloſe built for two or three feet, and an open dyke above it, of rough ſtones, piled upon, and locked into each other. This laſt, which is commonly called the Galloway Dyke, is conſidered as the preferable fence.

After the ring-fence has been completed, the different *ſubdiviſions* within it, as marked upon the plan, are meaſured off, and pitted out upon the ground; forming, thereby, the *ſecond* branch of improvement. Theſe are intended to combine utility with beauty; and may either be of ſtone or thorn, as the farmer pleaſes. If thorn be preferred, the thorns are given *gratis* by the Duke, at the rate of 50 to the rood, on their diligently obſerving the following conditions. Five feet, on either ſide of the line of encloſure, muſt be ſtrewed either with dung, or lime, or both, at the rate of a cart load of good rotten dung, or a Carliſle buſhel (half a Linlithgow boll, or three Wincheſter buſhels) of lime at the leaſt, to the chain length of 74 feet. A ſod muſt be raiſed and laid along the line of fence, with the green ſide undermoſt, if it chances to be leas: the thorn muſt be placed on that ſod; and the firſt ſpading of the dunged or limed ſurface all raiſed, and thrown as equally as poſſible over the bottom of the bank, in order that the roots of the thorns may meet with proper nouriſhment as they ſtretch along. None of the ditches muſt be leſs than 5 feet wide, and $2\frac{1}{2}$ feet deep. And after the fences are formed, paling is allowed out of the Duke's plantations, at the rate of from 7d. to 9d. per rood. It is eaſy to ſee, how preferable this method of preparing the ground is, to that which is commonly in uſe. For, though both ways may do equally well for a year or two, and on good ſoils the difference may never be ſeen; yet, on ſoils either of till or moſs, where thouſands of hedges are planted, the common manner of doing them is greatly inferior,—ſince, after paſſing the dung which had been laid at their roots, they inſtantly feel themſelves in the midſt of poverty, are ſtarved for want of nouriſhment, and, conſequently, tranſmit a ſcanty ſubſiſtence to the

ſtem

ſtem and branches. In order to ſhow the ſpirit of improvement that is going on, I can ſtate with certainty, that beſides the enclo-ſures which were fenced with ſtone, the pariſh of Canoby, in 1808, got from the Duke no fewer than 400,000 thorns, which, at 50 to the rood, gives 8000 roods of hedge in one ſeaſon. The ſtunted growth of hedges was but too viſible on many parts of the eſtate, before the preſent mode was adopted: but even the old hedges, under ſeveral of the tenants, are now renewing their youth, by the judicious care they are taking of them. The gaps are filled up with ſtrong old thorns; the back of the fence is dug and turned down; a plentiful doſe of lime, or dung, or both, but eſpecially of dung, is applied; and the conſequence is, that, in two or three years, the moſs that overſpread the branches diſappears, and they aſſume as healthy an aſpect as ever. As economy is ever the object of the farmer, ſeveral of them have had the expenſe of this operation more than covered, by planting potatoes at the ſame time, either on their own account, or for the benefit of ſome poor family, to whom the taſk was committed. Indeed, the potatoes were found to haſten the proceſs of reſtoration; for the ſtems and leaves, by covering the ſurface, deſtroyed the weeds, and afforded that richneſs to the ſoil, which a luxuriant green crop is known to beſtow. I am unable to ſay preciſely what extent of land this recent ſyſtem of encloſure comprehends. But, from minute and accurate *data*, I can ſtate, that the new encloſures in Selkirkſhire alone, amount to within a few acres of 5000 Engliſh; and that, at a time when materials and labour were cheaper than they are at preſent, the expenſe of encloſing and liming theſe acres, and the expenſes which the farmers would be at during the exiſting leaſe for the buildings that were either begun, or propoſed by themſelves to be executed, were calculated at rather more than thirty thouſand pounds: all of which will be defrayed by themſelves. What an immenſe inveſtment muſt thus be made in the ſoil, over the whole eſtate! And how rich a fund has affection and integrity drawn from the pockets of grateful and confiding induſtry!

A *third* branch of this ſyſtem is the *rotation of crops* which the Duke preſcribes to his tenantry. On this he is very liberal; for the only reſtraint he impoſes is, that they ſhall not take two white crops in ſucceſſion; and that their lands, after lying out in paſture as long as they pleaſe, ſhall not be laid down for paſture again, till they have undergone the uſual rotation of corn, green crop or clean fallow, barley or oats, and graſs-ſeeds.

Small Plantations form a *fourth* branch of the Duke's ſyſtem; and, in the plans made out for, and delivered to his Grace, theſe are diſtinctly delineated. The banks of rivulets, coarſe pieces of

land, belts within the ring-fence, ſo as to encloſe the whole cultivated grounds, or ſtrips of planting between the encloſures, for the purpoſes of ſhelter, are ſeverally adopted according to circumſtances; and, in marking out the encloſures to the tenantry, theſe are always diſtinctly ſhown; the farmer being bound to make one of the ſides of the fence, and the Duke the other, when the plantation is made; but, till that is done, the ground may be uſed in whatever way is judged by the tenant to be moſt for his advantage. The uſe of theſe plantations on the ſeveral farms is obvious. They not only give beauty to the landſcape, an additional warmth to the ſoil, and ſhelter to the cattle; but, in the courſe of time, will ſupply the woods that are cutting down, and give to the farmer the timber he needs, at his own door.

But proper encloſures and proper rotations are altogether ineffectual, unleſs care be taken to keep the rivers within their proper limits, eſpecially near their ſources, where vaſt quantities of ſand are conſtantly forcing them to change their courſe. Accordingly, this forms the *fifth* part of the Duke's plan. Every one knows the waſte of ground which ſuch frequent changes naturally occaſion. The plough muſt keep at a reſpectful diſtance, leſt the next flood ſhould deprive the farmer both of ſeed and ſoil. Hay can never be looked upon as a certain crop; for it is often either ſanded or ſwept away. And, ſhould ſheep be tempted by the deep verdure that ſuch top-dreſſings of mud commonly produce, they too often do it, to their certain deſtruction. In ſuch a caſe, then, the common expedient has uniformly been, to raiſe embankments to confine the water: but embankments alone have been found to be ineffectual, ſo long as the channel remained unſtraightened. Accordingly, the Duke, with his uſual penetration, recommended it to the tenants of thoſe farms, at the head of Eſkdale eſpecially, where the grievance was chiefly felt, to cut the channels which had given them ſuch diſturbance, and thereby procure for themſelves a laſting good. It is the peculiar excellence of the Duke's ſyſtem of management, that recommendations from him are equivalent to laws, and are eagerly executed by the farmers, although the expenſes of ſuch improvements are defrayed by themſelves. In conſequence, therefore, of this recommendation, three very conſiderable cuts have been made at the heads of the Black and White Eſks; one at Kilnburn, on the farm of Twiglees, of 10½ roods in length, 16½ feet wide, and 3 feet deep at an average; with an earthen embankment at ſome diſtance to confine the water in times of flood. One at Garwald of 132 roods in length, 15 feet wide, and 3 feet deep at an average, with an earthen embankment, where neceſſary, of the ſame kind as the former. And one at Nether Caſtock and Fingland, of 327 roods in length, 12 feet

wide

wide at top, 9 feet wide at bottom, and 3 feet deep: But as this cut was conſidered to be much too narrow for containing the water, 6 feet more on each ſide of it were agreed upon to be bared of its ſurface, in order to be worn away by the floods; and a large ſloping embankment, at the diſtance of 15 feet further out, on either ſide, was erected to confine the water. This embankment is 8 feet wide at the baſe, 3 feet high, 1½ feet broad at the top, and 1¼ feet of ſlope on the inſide, for every foot of height. It is needleſs to fatigue your readers with an account of the expenſes of all theſe; but I may mention the laſt, as another inſtance to the many I have already given, of that unlimited confidence which exiſts between the Duke and his tenantry. The original expenſe was 278l. 10s. 3d.; but, on account of the nature of the channel, which is partly clay, and partly ſand, the whole expenſe of making and repairing has been no leſs, at this moment, than 568l.; all of which (except 150l. which the Duke, in conſideration of the greatneſs of the undertaking, gave in aid of repairs) was defrayed by the tenant of Nether Caſſock, on the one ſide, and the tenants of Fingland and Over Dumfedling on the other. For the Duke's rule in ſuch caſes, is, that if the matter lye between his own tenants, they ſhall each of them pay a half; but, if between him and another heritor, the tenant ſhall pay nothing; the two heritors taking it upon themſelves. Accordingly, when 48 roods more were added to the lower end of the original cut, by the tenants of Over and Nether Dumfedlings, on the one ſide, and an adjoining heritor on the other, they paid nothing,—the matter lying between the Duke and that heritor. It is ſcarcely poſſible to ſay how much benefit may be derived from well executed improvements of this kind. In the caſe of Nether Caſſock and Fingland Haugh, this cut, of 375 roods, or a mile and a quarter long, beſides the good it hath done in keeping in the fleet-water at the lower end, from the parties concerned there, has ſaved 60 acres to the above mentioned farms, which were wont to be overflowed every year; and were ſo ſour and ſpongy in many places, as ſcarcely to allow a perſon to tread upon them, without ſinking to the knee, even in the middle of ſummer. To Nether Caſſock, eſpecially, it is peculiarly valuable; for, being a high lying farm, without any conſiderable quantity of low ground, it affords grain for the family, at leaſt in part; ſome turnips for a part of the ſheep, and hay for the reſt, in times of ſtorm; thereby preventing them from flying to Annandale.

Sixthly, On ſo very extenſive an eſtate as that of his Grace, it is naturally to be expected that there are many places which ſtand in need of *draining*. This, therefore, the Duke has kindly provided for; ſince every tenant, by applying either to Mr Keir

or

or Mr Stevens who has the charge of the water-meadows, the draining of all grounds not paſtoral, and the ſtraighting of rivers, may receive the advantage of their long experience. And to perſons who defray the expenſe of ſuch improvements, this is no ſmall advantage; for, although ſome may have a natural turn for theſe things, there are others who are greatly ignorant of them, and may ſpend money to little purpoſe. One general rule, in all ſuch operations, commonly is, not only to make the drain in ſuch a direction as to catch and carry off the water, but to get, if poſſible, into the ſand, the ſtratum where the water uſually runs: Nor is this ſo difficult as many imagine; ſince, in thoſe caſes even which want level, the ſand can commonly be got at, either by an auger, according to Elkington's method, or by digging little pits, and filling them afterwards with ſtones. Thus the water riſes up into the drain, and the cure is as complete as if we had driven a level along the ſand. It is aſtoniſhing to ſee the effect which a well executed drain of this kind immediately produces. The ſide of the pot which contained the water, and, by forcing it to overflow, thereby made the ſurface a perfect moraſs, is thus pierced near the bottom; the water obtains a free outlet; the ſurface-drains, if there were any, become inſtantly empty; a compreſſion of the ſoil is viſible; and the plough can commence its operations with ſafety. In the jocular but pointed language of Johnſton, the pupil of Elkington, when we were admiring the effect of his art, 'Why all this wonder?' ſaid he; 'by inſerting a cock and key into the end of a barrel, the ale ceaſes to appear at the bung.'

In vain, however, are lands either enclosed or drained, unleſs the means of producing improvement are either near, or rendered acceſſible by good roads. Theſe, therefore, formed the *ſeventh* part of the Duke's plan. In Canoby, where he is the ſole proprietor, he had done ſo long ago. Coal and lime are there in abundance, and excellent parish roads have been made in every direction. Liddisdale, Eskdale, Ewisdale and Wauchopedale, all apply to theſe for comfort within, and improvement without. In Tiviotdale, lime is at a great diſtance; but they have plenty of marl in every moſs almoſt that they chooſe to drain. The richly improved barony of Eckford and Lempitlaw, which lies in the neighbourhood of Kelſo, derives its proportion of calcareous matter partly from the marl moſs at Eckford, and partly from the lime-kilns in Northumberland. Thoſe about Selkirk have marl in abundance, and lime, if they chooſe it, from Lothian; but this laſt is conſidered as expenſive. The only farms, therefore, on the eſtate, which felt themſelves excluded from the general benefit, were thoſe in the upper end of the parishes of Etterick and Yarrow; but the late ſurvey hath ſupplied in part that defect; for

for great pains were taken by Mr Keir in searching for marl. None was found in St Mary's Loch, or the Loch of the Lows, but plenty in Kingside Loch, on the farm of Buccleuch, from whence the Duke derives his title.

Such is the nature of the plan which was intended first to ascertain, and in the end to produce, the *maximum* of improvement in the hitherto unimproved parts of his Grace's estate. Its leading features are,—the erection of ring-fences to divide the sheep-pasture from the arable ground,—the subdivision of the land within these into suitable enclosures,—a proper rotation of crops,—planting either around the ring-fence, or among the fields, for the purposes of beauty, shelter and subsequent utility,—a defence of the enclosures from the adjoining rivers, by straighting and embankment,—draining of the places that have a superabundance of moisture,—and providing, where it could be done, the different farms with plenty either of lime or marl.

To those who know the alacrity which the Duke's tenantry in general show in executing what they understand to be his Grace's will, it will readily be thought, that nothing further was requisite than the regular exhibition of these before them. But the Duke possesses delicacy as well as sagacity: he is unwilling to single out and give particular directions to the selfish and indolent; and therefore, by the adoption of general rules, he endeavours to obtain that by emulation, which others can only obtain by fear. Accordingly, what may be considered as the keystone of the building we have been endeavouring to describe, is the happy contrivance of *parochial overseers*, commonly chosen from the poorer tenantry, who, for a reasonable consideration, and the opportunity it gives them of being known to his Grace, readily undertake the task required.

The duty of these, indeed, is not difficult, but it is important. For, in the *first* place, they have each a book of sketches made by Mr Crawford, of the different enclosures within the ring-fences, of all the Duke's farms in the parish where they reside; the old enclosures marked with black, and the new with red, with the number of acres contained in each. From these, Mr Crawford having gone over the ground, and pitted them out in their presence, they are to take care that the pits be preserved, or a line that had been drawn by the plough kept visible, till the farmers are able to overtake the enclosing. *2dly*, When the farmers are to enclose, these overseers take care that the ground be prepared for the hedge, on the line, and in the manner formerly mentioned; after which, they give an order on the Duke's gardener at Langholm, or on some other authorised person, for the requisite number of thorns. A *third* duty of these overseers is, to see that

that all the hedges within their district be cleaned twice in the year, till they are a complete fence, and that the ditches and dikes shall not be destroyed by cattle or otherwise; and a *fourth*, which is indeed of vast use in districts beginning to improve, is to fill up, every year, a table which accompanies the sketches, and contains the number of enclosures on each farm, with the simple notification of the crops that the farmer has upon them for the year;—the intention of which is, in the first place, to stir up the indolent; and, in the second place, to show his Grace, at one glance, what advancement they are making towards a good system of management, that, when the end of the lease comes, he may know with accuracy how to appreciate their degrees of industry.

It is not for me to say, whether the plan that has been adopted by his Grace should be followed by other extensive proprietors; but I am certainly entitled to assert, that upon his estate it has done, and is doing much good. For, in the *1st* place, it has raised, among the persons for whom it was intended, a spirit for improvement which never did appear before. Many thousand pounds have already been expended, and a great many more must necessarily be spent, before the projected improvements are finished. Those only who have examined the plans, and counted the acres, can have a probable guess as to the full amount. *2dly*, It has changed, and is changing every year, the face of the country wonderfully to the better; giving it an improved aspect, which, while it gratifies the traveller, will, I trust, be profitable to the farmer. Let any one who knew Liddisdale, Eskdale, Etterick, Yarrow, and the Duke's farms at the head of Tiviotdale, about ten years ago, but take the trouble to visit them now, and he will see the truth of my observation. In the *third* place, this plan of improvement laid down by his Grace, prevents those from throwing away their money in unprofitable enclosures, who are willing to improve, but unacquainted with the best manner of doing it. They see what the proprietor expects, and are at liberty to begin with whatever part of the plan is most for their advantage; only, the Duke insists that they shall not alter, on their own authority, what he has been at so much pains and expense to get executed. *Lastly*, It appears to me to be a system founded not only in wisdom, but in benevolence; for it is far from the Duke's mind to wish, that any of his tenantry should improve his estate to their own hurt. He only expects that the wealthy shall show a willingness proportioned to their ability; and that the individuals who unfortunately have litte to spare, shall execute by degrees, as they conveniently can. Nor should any complain because the improvements marked out for them may chance to be considerable; for, if they really deserve the name of improvements, they must in the end

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be profitable to the farmer: and I would submit it to their consideration, whether it would be more for their interest that the Duke should continue them at a certain rent, and receive the rest in the form of improvements; or exact, as too many do, the whole in the form of rent, and leave them to improve or not, as they please.

But I have trespassed too long on the patience of your readers. In another paper, I shall finish the plan I had prescribed to myself. And, in the mean time, am, &c. W. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from the West Highlands.

SIR,

BEING by trade a farmer, I consider myself in honour bound to encourage any mean likely of proving useful to the occupation, which of late owes much to the press. There is scarce an agricultural publication of merit, therefore, but I consider having so much claim on my patronage, as induces me to purchase a copy. To this tribute, which, I think, I and every other person, in their respective avocations, owe to genius, you are indebted, for my first acquaintance with your Magazine; and I have the pleasure to confess, that my zeal has not often been better rewarded. But prefaces of this kind occupy too much of your valuable paper; though a young correspondent feels delicate of introducing himself, or his subject, without a preamble of this nature.

Looking daily at the Hebrides, and living perpetually under the influence of the Atlantic, where the spirited agriculturist is for the most part checked by climate, and other local circumstances, from expensive or permanent improvement, perhaps I may be little indebted to such of your correspondents as have filled my head with the comfort, and, on the whole, great saving of a substantial and convenient farm-steading. That I would propose exactly any of the two kinds, of which you have presented me with a drawing, if I could command them, is not my ambition; though, methinks, I have a plan in my head, suitable to my uses, and the site in which I would build it, and which, if encouraged, I may communicate to you by and by, unless I see another able hand continue the subject; for I conceive an article of this kind so important, that I would like to see a third, or even a fourth plan. If I were to admit these inferior to those already presented, still something might be culled from them to suit particular situations.

Let me say, that the construction of article 73. in the last plan, viz. *a flue kiln*, (*vide* vol. VIII. p. 278.), is not fully comprehended by me from the drawing, having never seen one; and the table of references does not explain it. I admire the smallness of room required

required for it, if equal, in extent of design, to the rest of the plan; also, how it can be safe for the contiguous buildings to have it so near them. I purpose building a kiln next year, and will consider myself indebted to the writer of that article, if he explains, through the medium of your Magazine, this part of your plan; also to him, or to any other of your intelligent correspondents, for hints on corn-mills in general.

Allow me to confess myself much obliged by his cheap floor for a hay chamber. If some clay-dust should stick to the hay, in consequence of it, and be thereby conveyed into the stomach of a horse, I fancy it would not prove prejudicial.

In this part of the island, we are improving fast in our accommodations, but chiefly in forming and constructing new roads and bridges, which are the groundwork of all improvement. In the executive part of operations, we have mended considerably; for, in place of turning our land with an instrument, not to be compared to a plough but by the name, drawn by six oxen, or four horses and a driver, with another man keeping pace to the ploughman, whose sole work was to watch the furrow with his foot, lest it returned to its place again, and one or two men to adjust, with a crooked spade, any baulks or errors committed by those who preceded him, all is now performed by one man and a pair of horses with Small's plough. We have also exchanged our creels and sledges for single-horse carts, and even got our wooden harrow-teeth exchanged for iron ones; which barter, I conceive, enables us, of itself, to afford 20 *per cent.* more for our farms. Good fences are valued among us, in place of feal dikes, which proved a perpetual labour, and no security. The greatest waste of our time, now-a-days, seems in the article of thrashing; and none of us have employment sufficient for the expense of your large thrashing machines. The Highland Society of Scotland, however, I perceive with satisfaction, are fully aware of this defect; and I fain hope they will discover a radical cure by a small machine, which they say, in some of their minutes, is understood only to cost from 20*l.* to 30*l.* I, as well as perhaps many others of your readers, feel interested to hear of their progress in this discovery; and subscribe myself your obedient servant,

West Highlands, 17th October, 1807. N. N.

FOR THE FARMER'S MAGAZINE.

Remarks upon the Draft of a Lease, inserted in Farmer's Magazine, No. XXXIV.

WERE all cultivators of land also proprietors, there would be no occasion for that artificial contract between one man and another, called a Lease. By combining in their own persons the separate

parate and independent interests of landlord and tenant, that particular kind of tenure which, in modern times, serves to bind these two classes of men together, would, in that case, be totally unnecessary. It is because land, as a species of property, has come into the hands of one set of individuals, and the cultivation of it fallen upon the shoulders of another, that a deed of this kind has been introduced into practice.

As long as land belonged to those who cultivated it, the proprietors of the soil were, of course, interested in its good or bad cultivation; because they were gainers or losers in proportion as it was well or ill cultivated. When, however, the property of the land and the culture of it, came to be divided between two orders of men, that interest, which in the former case was but one, now branched out into two. The bad cultivation of the tenant might, by this new distribution of things, prove ruinous to the landlord; and the stupid policy of the landlord might, without benefiting himself, retard the prosperity of the tenant. A deed, therefore, which would preserve entire to these two classes of men their respective rights, became absolutely necessary, the moment the separation I have been speaking of took place in society.

It may most naturally be imagined, that a proprietor of land will cultivate it in the best possible way; at least his errors will be those of the head, not of the will. From the circumstance, however, of the interests of the landlord and tenant being apparently opposite in every thing, and certainly so in some particulars, it becomes no easy matter to reconcile them. The difficulty is, to preserve the rights of the proprietor inviolate, without oppressing the tenant; and to leave the latter as free as possible, without injury to the former. To do this, requires a greater degree of agricultural knowledge, and liberality of mind, than perhaps we have hitherto attained; but it is some consolation to think, that we are nearer the goal now than we were twenty years ago. In time, it is to be presumed, that this most desirable object will at length be accomplished.

The public are, I think, much indebted to you, for introducing into your Magazine, (Vol. IX. p. 182.) the draft of a Lease therein given; not on account of any very particular merits possessed by the deed itself, but because it may be the means of turning the attention of your agricultural readers to the discussion of a subject of the first importance to the prosperity of the country. It will, I hope, have the effect of drawing such observations from your enlightened correspondents, as will be the means of putting this kind of tenure upon a more satisfactory footing than it is at present. With the view of contributing my small mite to so laudable a purpose, I trouble you with the following remarks, which occurred

occurred to me when perusing the above draft of a Lease. If I shall be so successful as to expose one error, or to add one truth to those already known, I shall feel myself more than repaid.

I shall consider the different clauses in their order; and I must request of the gentleman by whom it is said to have been framed, not to be offended with the freedom of my remarks. If he be a person of the description mentioned, I make no doubt but he prefers truth to every thing personal to himself; and will rather pardon a transgression against good manners, than against good sense.

I am truly sorry to find in this Lease, the clause 'secluding assignees, whether legal or conventional, and subtenants of every description;' because I was sanguine enough to have hoped that a contrary example might have the effect of banishing altogether, in a short time, so impolitic a condition. As I consider the power to subset and assign as of great importance to the tenantry and to agricultural improvement, I shall endeavour to obviate in this place every possible objection to the freedom here contended for in favour of the cultivators of the land, *in so far as the interest of the landlord is concerned.* The arguments in favour of the same principle, *in so far as the interest of the tenant is concerned,* have been already so fully and so well stated in a former Number of your Magazine, as to render any thing additional totally unnecessary.

It is not enough to say, that a landlord has the right to exclude assignees and subtenants; because, if that be all he has to say for himself, it would be a waste of time to argue with a man who is predetermined against the opposite doctrine. What I am going to state, relates to the impolicy of the exclusion in question; and if I can show that it is positively injurious to the landlord himself, then he ought not, upon that account, to exercise a right by which he has suffered so long. It is needless to show that the exclusion is injurious to the tenant, for that is admitted by its warmest admirers; and, besides, I am fearful that landlords will not be disposed to abandon an antient prejudice, unless it can be shown to be personally prejudicial.

The entire argument of the landlord in favour of the exclusion of assignees and subtenants, is contained in the *delectus personæ* of the tenant, to whom they originally let the lands. At the time the lease was granted, they took care, they say, to deal with an excellent tenant; but, if he be permitted to assign or subset, they may be saddled with another of a very different kind; and, of course, not so well off as before. Supposing a tenant to be every thing which a landlord can desire, it is probable he may die before the expiry of the lease; and, in that case, instead of the matured talents of the father, he may have to content himself with the ignorance

nerance and inexperience of the son. In the event of the death, therefore, of the original tenant, the landlord may suffer as severely, if not more so, than if assignees and subtenants were admitted to the utmost extent. In truth he suffers more; because, by reason of that sort of physical subset, he is deprived of the responsibility of the first tenant, while, on the other, he has him bound hand and foot, notwithstanding of the assignation. It is wonderful, therefore, that the landlord, who, long ago, seemed to imagine that every thing beneficial to the tenant must, of necessity, be injurious to himself, did not insist upon a forfeiture of the lease taking place upon the death of the original tenant, upon the ground of the *delectus personæ*. The hardship suffered by the heir would be no measure to this cruel exercise of his right, if he considered it for his interest to put it in practice. But, had the landlord pushed his love of the *delectus personæ* as far as to exclude heirs, he would do a manifest injury to the tenant as well as to himself. The injury done to himself arises out of that done to the tenant; and, as it has been shown over and over again in your excellent Magazine, that the exclusion of assignees and subtenants is prejudicial to the tenant, it may be safely inferred to be injurious, in some measure, to the landlord himself.

I shall not deny, that, upon the supposition of a power to subset and assign, a landlord may, in the room of a good tenant, get a bad one. The case is very possible; but the reverse is as much so; and here, the doctrine of chances leans as much to the one possibility as to the other. But, upon the first supposition being the fact, what is the amount of the injury sustained by him on account of this change of the individual? The rent is continued to be paid as regularly as before, because the original tenant remains bound, notwithstanding of the assignation, for performance of the pecuniary obligation. So far, therefore, as the payment of rent is concerned, and that with landlords is the principal consideration, he is not a whit worse by the change. It may be said, however, that the subtenant is not so enlightened in his profession as the principal; and, in proportion to the amount of that difference, the landlord will be a loser. To this I answer, that in the present rapid career of agricultural improvement, a new tenant is as likely to be the best farmer of the two. But supposing that he were, in reality, inferior, what is the amount of the loss sustained by the landlord by reason of this alleged inferiority? With regard to the performance of every stipulation in his lease, such as that of a particular mode of cropping or management of the land, by which it is supposed to be improved; and with regard to every obligation upon the tenant contained in the tack, he is just as well off with the assignee as with the original tenant, or, perhaps, much

better; because both are bound. Indeed, by the interposition of the assignee between the landlord and the original tenant, it becomes the duty of the latter to keep a sharp look out after the subtenant, that he performs all the conditions of the lease. So far, therefore, as the written lease goes, the landlord is as well off, if not better, after the change, as before it. But it may be urged, that a bad tenant will do no more than what he is obliged to perform, while a good one will voluntarily, and *con amore*, perform a great deal more. To this it is sufficient to answer, that a landlord can expect no more good to come out of a lease than what is within the four corners of it; and, therefore, he can take no credit for a thing which is merely accidental, and entirely optional to the tenant, to do or not as he thinks proper. Besides, if landlords shall continue to persist in the exclusion of assignees and subtenants, the tenants here supposed to be good, will take care to perform no more than what bad ones are conceived to do; and, by that means, proprietors will cease to enjoy the smallest benefit from this boasted *delectus personæ*.

In feudal times, a vassal could not dispose of his land without the consent of the superior, from whom it is supposed to have originally emanated. In the 19th century, landlords, acting upon the same barbarous principle, would prevent tenants from exercising the right of disposal. The vassal could not sell his permanent interest in the land to another; and the tenant is not permitted to bring to market his temporary possession of the soil. The prevention of a sale by the vassal was founded in common sense, namely, the support of the power of the superior, which fell to the ground the moment it was brought to the hammer. The exclusion of assignees and subtenants by the landlord, was with the view of promoting his own interest, by keeping upon the land the person to whom it had been originally let. The intention of the feudal chief and the more modern landlord was just the same; but the latter has not so good an excuse. His interest will remain unimpaired, notwithstanding of the permission of assignees and subtenants; and, therefore, he ought to abandon what is unquestionably injurious to the tenant.

The *delectus personæ* upon which so much stress is laid by the landlord, does not appear to me to be an object of such importance as it is fashionable to consider it. I should apprehend that it means a quality which the landlord contemplates over and above the tack that he has granted, for it is not contained within the four corners of it. This quality, moreover, is contingent and accidental; for the tenant may be of such a description, as that, instead of there being a *delectus personæ*, there may be the very reverse of it. A tack will not make a bad tenant a good one; but a landlord, at

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the beginning of a lease, will choose the best among the offerers. This may be true; but the original tenant may become as bad as any subtenant can possibly be. It is plain, therefore, that this quality of *delectus personæ* is of a most fugitive kind; and which, being voluntary upon the part of the tenant, and depending upon his life, and a thousand other accidents, cannot enter deeply into the calculations of a landlord at setting his land. The tack is all that he can calculate upon; because its contents can be enforced, and the privileges which are conferred by it upon the landlord are as ample, without the clause excluding assignees and subtenants, as with it.

In the little experience I have had in country matters, I am not aware of any material disadvantage arising to landlords from their having granted this power of subsetting. If the original tenant be a good man, he will not subset the land to an improper person, because he still remains bound for the payment of the rent, and performance of the other stipulations of the lease; and if the tenant be bad, the chance is, that the landlord will be a gainer by the change. So far as I have seen this more liberal doctrine put in practice, I have no reason for regretting its introduction. Some cases, no doubt, will occur, where a landlord may get a worse tenant than he had originally; but that is merely an exception to a general rule, not an argument against the rule itself. If the evils arising from it to the landlord be accidental and partial, even where they do exist, it ought to be permitted in every case; because the advantages of it to the tenant are certain and universal.

Although a little out of order, I shall now consider the clause which vacates the lease in the event of the bankruptcy of the tenant, both on account of its similarity to the one already discussed, and because it has given rise to some observations from your correspondent *Agricola Tertius*, upon certain sentiments of mine, in my Remarks upon Perthshire husbandry.

So far as it is a bargain between the landlord and tenant, I am very clear that, notwithstanding of its severity toward the latter, it would be found good against him in a court of law. A bargain is a bargain; and if courts of law were perpetually to interfere between parties in their adjustment, they, and not the contractors, should make them from the very beginning. What would be the use of A and B agreeing to do one thing to-day, which a court of law has in its power utterly to annul in the course of to-morrow? But the very circumstance, of its effects being in the highest degree penal, is a reason why the clause should not operate beyond the pale of the contracting parties themselves. When the interests of other people come to be affected by the

application of such a clause, it is very natural for Judges to pause, and consider how far its destructive influence ought to be permitted to extend.

In the communication animadverted upon by your correspondent, I mentioned, that such a vacating clause is not by any means analogous to that excluding assignees and subtenants. For my own part, this is the first time I ever met with the former. But I know, or ought to know, that the former is, with a few exceptions, inserted in all tacks. In the event, therefore, of suffering by the clause of exclusion, I have myself to blame, in the same way as a person would be culpable, in giving credit to an heir of entail with that deed upon record. In the clause, again, vacating the lease upon the bankruptcy of the tenant, I get my fingers burnt without being aware of the danger, as the same person would be by an heir of entail were that deed not upon record. This, I imagine, may satisfy your correspondent, that there is a wide difference between the two clauses, and, of course, that any reasoning applicable to the one is not at all so to the other.

The clause excluding assignees and subtenants, is one in which the parties themselves alone are concerned, and with which, in a pecuniary point of view, the public have nothing to do. An intending tenant, when bargaining with a landed proprietor, knows that he cannot subset; and if he remains upon the land till the expiry of the lease, he is not injured by it in the smallest degree. A creditor of the tenant suffers nothing from the exclusion of assignees and subtenants; because, if he pays the debt of nature, his heir must pay the creditor. As little danger is there to the public; because they can be no sufferers in a pecuniary sum through the lease, unless the tenant has previously sustained a loss. But the case is very different with the clause in question. The tenant himself loses a lease upon which he has perhaps laid out some thousand pounds; not because he is unable to pay his rent, and perform the stipulations incumbent upon him, but because he has run into debt with other people. The bankruptcy, perhaps, is owing to the very circumstance of his having expended so much money in enriching the farm; and why should the landlord be benefited at the expense of other people?

It is said by your correspondent, that '*it* (meaning the clause) is not repugnant to the statute or common law; nay more, that it is perfectly fair and proper in a moral and political point of view.' I am not lawyer enough to say, whether or not it be repugnant to the statute or common law; nor do I think *Agricola Tertius* deeply enough versed in the subject, to pronounce so very authoritatively upon a question of no small difficulty. Where there is an apparent hardship to individuals, I am charitable

charitable enough to believe, that the statute or common law does not legalize the evil; and in the present case, I would for that reason have been better pleased had your correspondent, instead of giving simply his *ipse dixit*, entered into a legal discussion of the merits of the question. I am grieved to learn from him, that what is fair and proper in a moral and political point of view, is something 'more' than the statute or common law: For I should have thought, that the law of the land would have been founded in justice. Again, I do not well understand why there should be a difference between fairness in a moral, and fairness in a political point of view; because I should think, that quality was morals, and morals politics, in the legitimate meaning of these words.

It is very true, that a bargain will in general be supported by a court of law, where parties only are concerned; but it may not be fair and proper, for all that, as a transaction, upon the part of one of the contractors. The advantage may be all upon one side, and therefore presumably not fair; but, for the sake of business, the individual must suffer for the public good. In vacating the lease on account of the bankruptcy of the tenant, the law does no more than fulfil the agreement of parties; but the bargain itself is not founded in fairness, because the effects to arise from the cause are more than what are warranted by it. A lease may very properly be voided by the inability of the tenant to pay his rent; because a tenant cannot expect to be permitted the use of what he is unable or unwilling to pay for. But, in the case of a bankruptcy, the rent is continued to be paid as regularly as before that unfortunate event took place; and notwithstanding thereof, the tack is vacated to the tenant. There seems to be something very hard and unfair to punish the tenant so severely, while the landlord loses nothing, or next to it. If the voiding of the clause be unfair *quoad* the tenant, it is tenfold so to the creditors of the bankrupt, who are, with their eyes shut, to be deprived of the only chance of future repayment. I am apt, therefore, to think, that, notwithstanding of the contrary opinion given to this gentleman by his lawyers, the Court of Session will not be disposed to support this vacating clause.

Entails are considered to be injurious to society, in so far as an heir may contract debts, while creditors get nothing in the event of his death. Now, in the present case, we have these bad effects in still a worse form; for a tenant may contract debts, and yet his creditors, in the event of bankruptcy, may be cut off without a sixpence. All the money he owes is most probably expended upon his farm, and his creditors are to get nothing; not because he is in debt to his landlord more than he is worth, but that he is over head and ears in debt to them.

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If a tenant grants an assignation or sublease, it follows, as cessary consequence, that he abandons his then situation; therefore, the *delectus personæ* is violated by the conveyance. a tenant may become bankrupt, and yet, by the creditors allo him to manage the farm, the landlord has the same power a tenant, and of course the *delectus personæ* remains as enti before. By vacating the lease, however, in case of bankruptcy landlord inflicts a punishment upon the tenant, without his ing been guilty of the crime. The fact is, he takes advanta the necessities of the tenant, to make him pay a severer pe than what the nature of the case requires.

It may be a matter of surprise to your readers, to find m guing upon this side of the question, when I am quoted by *cola Tertius* as contending, that this clause, vacating the is 'not contrary to law civil or moral.' They will find, ever, upon a little examination, that this Gentleman has ap unintentionally I believe, what I said relative to the claus cluding assignees and subtenants, to the other vacating the altogether. I mention this, principally to put your correspo to rights, and to explain to your readers that there is no co diction between my past and present arguments.

I have already noticed (says he) 'that he (meaning me mits, in the most unqualified manner, the landlord's right to clude assignees and subtenants; which, in my view of the is in every respect equivalent to an exclus of bankrupts

vacate the lease does not exist. To be consistent, your correspondent ought to have confined the vacating of the lease to those particular cases in which the creditors really compel the tenant to denude; because mere bankrupcy is not necessarily denuding. If a tenant grants an assignation, or subtack, then there is really and substantially a denudation by him, if the expression may be allowed. But the same effect does not necessarily follow from his bankruptcy. How then can *Agricola Tertius* say, that 'the exclusion of assignees and subtenants is in every respect equivalent to an exclusion of bankrupts and their creditors?' Or what are your readers to think of a person's logic, who reasons so very vaguely?

I remarked, that I did not think the law would sanction a clause of irritancy, in the event of a tenant becoming bankrupt, provided the rent continued to be paid. Upon which your correspondent is pleased to observe, 'I much doubt that gentleman has not fully studied the clause in the lease now under discussion, otherwise he would have viewed this matter in quite a different light.' There is here a mistake of about half a year, in point of time, into which your correspondent has most unaccountably fallen. The paper of mine from which the above quotation is made, is dated in January 1808; and the draft of the lease in question does not appear in your Magazine until the month of June thereafter. His blunder is owing to that paper having been inserted in your Magazine in December 1808, about six months posterior to the lease. But as the date of it must be gathered from that of the writing, and not of the printing, he is evidently in the wrong when supposing it in my power to have studied it. I may be right, therefore, or I may be wrong, in my ideas upon the subject; but I had not the opportunity alleged by that Gentleman of correcting the opinion I may have formed without a due proportion of previous consideration. I might follow *Agricola Tertius* through the remainder of his arguments upon this clause; but, by doing so, I should only repeat [illegible] I have already said; and therefore I shall now take leave of [illegible] altogether, and make some remarks upon a few of the other [illegible]uses of the lease.

The reservation of power to the proprietor to search for, work, &c. all the metals and minerals in the lands let, is very proper; but there does not seem to be the same necessity of reserving liberty to sell or apply the same to his own use. Without this clause, all which the tenant could prevent the landlord from doing, was the breaking of the surface of the land; and if it were possible to work the minerals, without at the same time injuring the surface, he could not possibly be hindered from selling the

materials. Now, if he could apply the metals to his own use, *without* the reservation of a power to work them, then, *a fortiori*, he could do the same thing *with* it. This reservation, therefore, of the power to sell, seems to be quite unnecessary, of not in the power of the tenant to prevent; and why reserve the liberty of doing what no person can prevent the landlord from doing? It appears to me, that the precise reparation to be made the tenant in consequence of the damage done the lands, by the working of the minerals, &c. is not accurately enough expressed. It is said, the tenant is to be paid 'for any *surface-damage* thereby done to the ground,' the word *thereby* meaning in the course of working the metals, &c. Now, the damage here condescended upon, is of a particular kind only, viz. *surface-damage*, which, strictly speaking, is the injury done to the surface of the ground merely, and nothing more. If the landlord makes a hole in the ground of a square yard in extent, then the tenant will get a deduction from his rent, in the proportion of the hole to the size of the farm. But it will be recollected, that the mere surface-damage is not all which the tenant may suffer in consequence of these operations of the landlord. Should the landlord make a hundred different holes in twenty acres of land, perhaps a superficies, equal to not more than an acre of land, is destroyed; but the remaining nineteen acres are greatly deteriorated in agricultural value. The reparation, in this case, merely for surface-damage, would not be at all commensurate to the total injury sustained. I would propose, therefore, that the word *surface* should be left out; by which means, the arbiters would be at liberty to allow the tenant compensation for the whole damage sustained by him, not only by reason of the holes themselves, but in consequence of them.

There can be no objection to the landlord reserving power to allocate such parts of the mosses as may have been in the use of being dug for peats to the other tenants on his estate; but in this case, that part of the farm lying next to the peat ground ought to be enclosed, in order to prevent the cattle of other people trespassing upon the tenant. The reasonableness of this is plain, because the tenant ought to be put in no worse a state by this power of allocating the mosses, being put into execution, than while it remained a dead letter. I have no objection either, to the landlord relinquishing the resumption of the mosses before taking possession; but as certain expenses will necessarily be incurred by the tenant in making way for this new arrangement, he ought to be reimbursed them. This is no more than fair; for if such a vascillation of sentiment is to be permitted to the landlord, he ought to be at the expense attending the non-execution of what he once intended.

It may be proper for the landlord to reserve 'power to make such allocations on the marches between the said lands and those adjoining, as he shall judge proper;' but that right should be carried into execution as rarely as possible. I would be better pleased if a landlord settled the marches before the entry of the tenant; because, in that case, the tenant, who has no alternative, would know much better what he was about. Instances, however, will frequently occur, in which the marches cannot be adjusted before the entry of the tenant; and in these, the power here reserved is very proper. I may remark, that the land which may be taken from the farm ought to be valued, not at the rate per acre it was originally let for, but at the rent it would let for in its present improved state. On the other hand, the ground which may be added to the farm, ought to be valued, not at its present value, but at its value at the time the tenant entered into possession of the body of the farm. Had he got the ground at his entry to the remainder, it would have been let to him at the same rent with the rest; and it would be hard to compel him to give more on account of an accommodation to the landlord. It seems to have been overlooked by the framer of this lease, that the ground added to the farm may not be in as good condition as what comes to be occupied by the landlord, and will, upon that account, require a considerable outlay to put it upon the same footing as the other. Perhaps, therefore, the landlord should be taken bound to put it in the same identical state as the other, or to allow the tenant a certain sum of money upon that head. It may be said, to be sure, that the arbiters will, in that case, put a less rent upon the land added to the farm; but I apprehend that an annual allowance is too slow a mode of remunerating a tenant for the outlay of a principal sum. It is the landlord, for whose benefit solely such an arrangement takes place, who should defray the expense of the outlay.

It may be proper for the landlord, and perhaps not substantially injurious to the tenant, to allow the former to 'assume possession of any part or parts of the lands hereby set, which the proprietor shall choose for being planted with trees; and that the tenant shall get deduction from his rent, at such a rate, for each acre planted,' provided the deduction supposed to be allowed him, be ascertained upon fair and just principles. If all that the tenant could possibly suffer by this power of planting being increased by the landlord, was the loss of a certain number of acres occupied by the trees, then the principle of the deduction is most fair and reasonable. But supposing that a landlord was to plant a variety of clumps of trees in different parts of the same field, it is plain that, in addition to the superficial loss in proportion to

the quantity planted, the field has lost much of its arable value by being cut up by this ornamental planting. It may be for the interest of the landlord thus to beautify his fields, but evidently must be injurious to the tenant. Now, as there is here another sort of loss, not so palpable to be seen, but equally real to the tenant as the occupation of the ground by the clumps of planting, an allowance ought to be made him on that account; or, at any rate, the arbiters should be left at liberty to make him a remuneration, if they shall see cause. As the clause however stands in the draft, it is plain that a landlord may, by planting to please his own taste, injure his tenant beyond the mere occupation of the planted ground, without giving him a farthing of compensation upon that head. It may be said, to be sure, that as the tenant has consented to the clause, he cannot find fault with the landlord for any injury which may afterwards arise from its being carried into execution. This, however, may be said of any agreement whatever; and as I am persuaded it was the object of the framer of the lease in question, not merely to make it a fair deed at the time, but during the currency of the lease, he will excuse me for the observation.

I am very clear, that all the unliquidated obligations incumbent upon the tenant, should suffer no increase during the currency of the lease, but that they should be identically of the same amount at the end as at the beginning. Upon this principle I must object to the obligation upon the tenant of keeping up the fences that surround these plantations when they do not otherwise act as enclosures to the farm. It is common sense, that no person whatever should derive a benefit without paying for it; and in like manner, that he should suffer no inconveniency from the advantage of another in which he does not also participate. If all the advantage be to the landlord, as in the case of planting, all the expense attending the care of it should devolve upon him. A tenant can have no objection to pay his proportion of the expense of keeping those fences in repair, which serve to divide his farm into the necessary enclosures, because he is benefited by them; but it is unfair to compel him to maintain fences from which he derives no benefit whatever. As well might the landlord take him bound to be at one half of the expense of supporting the wall surrounding his domain. He may be certain too, that little attention will be paid by the tenant to an object which is every way injurious, and in no respect beneficial to him. It would be worse for the landlord to take this charge into his own hands; for it will in all likelihood be much better done by his own than by others.

I would not have expected from a person worthy of being a correspondent of yours, the smallest objections to the payment by

by the tenant of 6 *per cent.* upon money expended by the proprietor in building houses, and in forming fences and enclosures during a certain number of the first years of the lease. This payment, however, is characterized by a writer who signs himself X. S. in the 36th Number of your magazine, as 'a barrier in the way of agriculture.' This gentleman surely will not pretend to say that a landlord ought to lay out his money upon these particular improvements, without getting a return equal to 5 *per cent.* for money lent upon heritable security. Now, we all know very well, that 6 *per cent.* is by no means a sufficient return from houses which are occasionally in want of repairs, and still less so from fences which are infinitely more perishable in their nature. * Had the landlord been asking a per centage, which, upon an average of years, would have been more than 5 *per cent.*, there might have been some plausibility in your correspondent's argument; because, in that case, the tenant would have been giving a higher percentage than what he had got from others; but in the present case it is quite the reverse,—for he is giving the landlord less than what he gets from other quarters. If money ought to return to the landlord 5 *per cent.*, then the use of it is worth that sum to the tenant, who, in fact, borrows it. These two propositions are equally true; for the one arises out of the other, and the value of money to the one, regulates the value of it to the other. For 1000*l.* I pay 50*l.* a year to the lender, because the money is worth that much in the market; and I will, in like manner, get an equal return from the quarter I have lent it. Your correspondent, therefore, may be assured, that if the landlord be not asking more than what other people do, the tenant may give it with perfect safety; for the money will be equally productive in his hands. It has been shown, however, that the landlord is, in the present case, asking less than what others, in the same circumstances, do; and therefore the tenant is a gainer by this species of lease.

I presume it will be admitted, that a farm, with requisite houses and fences, is worth more than another without these essentials. Admitting this, and the fact cannot be denied; then it follows, that the landlord, by this increased rent, is just getting the 6 *per cent.* expended upon the houses and fences. A farm, without a house, and unenclosed, will let for a particular sum; and another property, subdivided, and a convenient steading, will let for something more. The thing, therefore, is just as broad as it is long.

If the tenant be a man of enterprize and skill, and if the land be more or less without fences, his first step would be, to enclose the whole;

* Our correspondent will remember, that the tenant is taken bound to keep up, and leave the houses and fences in a sufficient state of repair. N.

whole; for no profitable ſyſtem of management can be proſecuted in an open and unencloſed farm. Now, if the tenant lays out this money, he ſaves, to be ſure, the payment of 6 *per cent.*; but then his money is ſunk, and left behind him at the expiry of the leaſe. It is much better, therefore, that the landlord, for whoſe permanent advantage theſe encloſures are made, ſhould lay out the principal ſum; and that the tenant, for whoſe temporary benefit only they are made, ſhould pay the intereſt.

Your correſpondent talks out of the way, when he ſays, that 'the exaction of 6 *per cent.* cannot be a hair-breadth free of the ſtatutes againſt uſury.' He ought to have recollected, that this percentage is payable, not for the loan of a ſum of money, but for the uſe of a houſe and fences which coſt the proprietor a certain number of pounds. It is uſual for the owners of theſe kinds of properties to get 10, and ſometimes 15 *per cent.* in towns; and why ſhould not thoſe in the country get the ſame?

I muſt, however, differ a little with your correſpondent, '*Agricola Tertius*,' in ſo far as he ſays, that the money thus expended by the landlord upon houſes and fences, is 'not lent, but ſunk; in moſt caſes, I believe I may add, irrecoverably ſunk.' Were it the tenant who laid out the money, it would be, to all intents and purpoſes, ſunk; for whatever advantage he might derive from the improvements themſelves, the principal ſum, in the ſhape of houſes and fences, would be left upon the ground at the termination of the leaſe. In the preſent caſe, however, the money is laid out by the landlord, who, at the end of the leaſe, finds the money expended by him lying in a tangible ſhape upon the land. It is plain, therefore, that he has fallen into a miſtake, by ſuppoſing that the money was laid out by the tenant, which it is not, inſtead of by the landlord, which it is.

It may be very true, that 'ſubdiviſion dykes and fences (as ſtated by X. S.), from their general conſtruction, do not ſufficiently anſwer all the purpoſes intended at firſt. Generally, a clap dyke, with a hedge and ditch, are not a ſufficient fence for the firſt five years, even when properly managed;' and therefore he argues, that, at all events, the tenant ſhould not begin to pay this 6 *per cent.* until they be fully grown. In anſwer to this, I have to remark, that, if money, in lending, be worth a certain return to the lender, it is worth juſt as much, in the borrowing, to the borrower. It will be admitted, that 6 *per cent.* is by no means too high a return to the landlord; and therefore it is not too much for the tenant to pay. If the tenant is not to pay a percentage until the fences are five or ſix years of age, then he would have to add to this 6 *per cent.* the intereſt of the accumulated arrears of that period, which would raiſe it to 7 or 8 *per cent.* Fences, the firſt year of their being

being planted, are worth, we ſhall ſuppoſe, 600l., and, after the expiry of ſeven years, 1200l.. For the former, the tenant will have to pay 36l. a year, and, for the latter 72l., which is in reality the ſame rent in both caſes. But your correſpondent would like to pay only 36l. for the latter, which would afford a return to the landlord of only 3 *per cent.*

It may be very true, that a tenant, during the infancy of the fences, derives little advantage from them; but if the leaſe be for nineteen years, your correſpondent ought to have been candid enough to have allowed, that, before the expiry of that period, he will be benefited by them. Why will he ſay, that theſe improvements will be enjoyed by another tenant, when, out of nineteen years endurance, he will, by his own confeſſion, have the benefit of a fence for fourteen years? If the landlord be to wait 'till the improvements become productive, and then aſk a conſideration proportionate to their annual value,' what better will the tenant be? becauſe, as the landlord muſt, within the nineteen years, get the 6 *per cent.*, the other will, in that caſe, inſtead of paying that percentage from the beginning, have to pay perhaps 12 or 15 *per cent.* from the time 'theſe improvements became productive.'

I would wiſh to ſee no clauſe in tacks but what is purely agricultural; and we find that clauſes of a different tendency are wearing out every day. Upon this principle, I would have been glad had there been no ſtipulation as to the tenant 'furniſhing the carriages of the whole materials that may be laid out upon building or repairs upon the premiſes.' I do think, with X. S., that it ſavours a little of the barbariſm of the dark ages, and what I would not have expected in a draft of a leaſe in the 19th century. It has the effect alſo of diſtracting the attention of the tenant at a time when it ought to be directed excluſively to the improvement of his land. I cannot think, with '*Agricola Tertius*,' that a tenant will drive the materials for building cheaper than any other perſon; on the contrary, I believe that profeſſional people, for very obvious reaſons, will afford to do it at a lower rate. We know, that the diviſion of labour is one cauſe of its cheapneſs; but here, the multiplication of it is ſuppoſed to have preciſely the ſame effect. If the tenant be a man of ſenſe, I am confident he will find no leiſure for the performance of extraneous work, and, of courſe, to become a carter.

I know ſome people who have blended the two profeſſions of farmer and carter; but I have always found them bad both at the one and the other. It is very difficult to make one's eyes look in oppoſite directions; and impoſſible to ſerve both God and Mammon. I am, &c. A CONSTANT READER.

FOR THE FARMER'S MAGAZINE.

Report of a Process relative to the Right of a waygoing tenant to remove the Appendages of a Thrashing Machine, lately decided by the Lord Ordinary of the Court of Session in Scotland.

At this day it is unnecessary to urge one word in favour of the Thrashing Machine, the utility of that implement being now universally recognized. The erection of thrashing machines has, however, occasioned some questions to be agitated, not hitherto discussed in our law courts; and, as a decision has lately been given, which must be a leading one, on a point materially connected with the success of agricultural machines, we trust that a detail of the arguments used on both sides, will be useful and acceptable to our readers.

The antient law of Scotland, with regard to what is called fixtures on a farm, was very strict, and, perhaps, unnecessarily severe, because farmers were thereby discouraged from making substantial or expensive improvements upon the buildings possessed for a limited term. When thrashing machines were first erected, proprietors, in general, became convinced of the necessity of departing from the antient rules, at least in so far as they were applicable to machinery. Hence no attempts have been made to detain machinery, even when fixed in the most decisive and durable manner; and the waygoing tenant, in every case within our knowledge, has been permitted to remove the whole, or to dispose of the same to his successor. This conduct was wise and judicious, because the tenantry were thereby stimulated to erect thrashing machines, from a sense that they would, one day or another, procure value for them at the conclusion of their leases. In fact, thrashing machinery is now considered to be as much the property of the tenant who erected it, as a pair of fanners, or any other implement employed in executing farm business.

Though this has been the uniform practice with regard to those parts of the machine constructed by the mill-wright, yet doubts have been entertained concerning the outgoing tenant's right to remove certain other articles characterized as appendages of the thrashing machine—articles without which it could not be worked; and though, strictly speaking, not machinery, yet as much necessary in executing the process of thrashing and cleaning corn, as any branch or portion of the implement. Owing to these doubts, the tenant's right has, in three or four instances, been investigated in the inferior courts; but the decisions pronounced being of a contrary nature, the point was by no means satisfactorily ascertained till last winter session, when a judgment was pronounced, which fully establishes the tenant's right to remove the

the several articles afterwards enumerated. This being a subject of great importance to the tenantry of Scotland, the arguments used in the inferior court shall be fully detailed.

The leading particulars of the cause are as follows.

At Whitsunday 1808, a farmer in East Lothian, whose lease had then expired, disposed of his thrashing machine to a neighbouring farmer, at an agreed price; but, in removing the machinery, was opposed by the incoming tenant, who considered that certain articles, such as the large beams in the horse-shed, which guide the horse-wheel, the lofts, partitions, &c. were fixtures; therefore could not be removed, according to the law of Scotland. The outgoing tenant, wishing to have the point decided, presented a short petition to the Sheriff-depute of the county, merely stating the facts, without argument. Answers were ordered; and the following is, in substance, what was stated in favour of the claim of the incoming tenant.

'The question now to be submitted for your Lordship's determination, appears to the respondent completely free from intricacy or dubiety; and he flatters himself, that it will be unnecessary for him to consume much time in clearly showing the futility of the plea by which the petitioner can reasonably expect to meet with success in his present application.

'It may not be improper to mention, that the respondent succeeded the petitioner in the farm of —— ——, after the latter had possessed the same for a period of twenty-nine years; in the course of which, he had erected a thrashing machine upon that farm, for his accommodation, and for the purpose of cleaning and dighting out the grain produced on the lands. The respondent's entry to the farm was, as to the houses and grass, at Whitsunday 1807, and, as to the arable lands, at the separation of the crop from the ground; and his lease contains an assignation to that clause of the petitioner's tack which obliged him, as outgoing tenant, to leave the houses, &c. in the state of repair thereby stipulated.

'Your Lordship will please keep in view, that the respondent has not, in the most distant manner, opposed the petitioner in removing the whole thrashing machine and its relative articles of machinery, whose right, in that particular, the respondent does not mean here to dispute; and, had the petitioner's claim stopt there, the present *judicial combat* would not have arisen. But, besides this, the petitioner maintains a plea, that he is entitled to pull down, carry away, and remove, the whole *joists, flooring, partitions, beams*, &c. which form part of the *barn* wherein his thrashing machine was erected; a plea which, with deference, is not only ridiculous, but is in direct opposition to law,—in direct

opposition to decisions pronounced in similar cases, both in this, as well as in other counties,—and also in opposition to established and received custom on the point; so, while the respondent thus resists the giving effect to such a plea, he does so, impressed with the fullest confidence of being supported in his defence, by obtaining an absolvitor from this action, with full expenses.

'The petitioner alleges, that "he is prevented by —— —— the incoming tenant, from removing the loft and partitions of said mill, with the beams of the horse course, *which are appendages of the machinery*, under pretence that they belong to the farm, and not to the petitioner, although they were erected by him;" or, in other words, the petitioner complains against the respondent for preventing him from pulling down, demolishing and carrying off, certain articles of repair which had been bestowed on part of the premises now occupied by the respondent, while these premises were in possession of the petitioner, and that for the latter his better accommodation. The petitioner seems rather aware, that his claim can only extend to the thrashing machine, and not to the *flooring*, *joisting*, &c. of the barn within which the same was erected; for he pointedly states, with the view of forming an affinity between these articles and the thrashing machine itself, that these articles "are *appendages* of the *machinery*." But the respondent is truly at a loss to comprehend how the *floors*, *joists*, *partitions* and *beams* of the barn on his farm of —— ——, can be denominated an appendage, or less principal part, or, indeed, any part at all, of the *machinery* belonging to the petitioner's thrashing machine; and he is persuaded it will require a good deal of argument and ingenuity, in even an attempt, to satisfy your Lordship of that being the case. Surely, if the petitioner means seriously to insist on his present claim, it naturally occurs he will fall, satisfactorily, to show that, without each particular piece of joisting, partition, &c. of the respondent's barn, alleged by him to be appendages of the machinery of his thrashing machine, the machine will not work, and will be rendered useless, before he can look for a decerniture in terms of his petition.

'The joisting, flooring, beams, &c. now demanded by the petitioner, are firmly and strongly united and built into, and form part of the barn, and cannot possibly be pulled down or removed, without the most serious damage to the building, nay, probably, without almost totally destroying the same. At all events, these being *fixtures* in every sense of the word, and a permanent improvement, the respondent contends that the petitioner has no shadow of right, either in law or practice, to pull down or carry them off, these being held and considered as immoveable. Were the

the petitioner's present plea at all regarded, he might, with the same good grace, maintain a right to remove and carry away the materials of the shed covering that part of the machinery on the outside of the barn, which was also erected at his expense.

'Having made these observations, the respondent will now proceed to notice such decisions as are within his knowledge, and, in his humble apprehension, bear upon the subject matter now under discussion, some of which are exactly in point. In the first place, then, the respondent will beg leave to call your Lordship's attention to the question, Whites *ag.* Sir John Houstoun, 20th December 1707, which, in its merits, so far as regards removing fixtures, has some analogy to the present. The case is in the Dictionary of Decisions of the Supreme Court, (vol. XXV. p. 15,258.) lately published by Maxwell Morrison Esq., and is also noticed by Mr Robert Bell, in his late publication on Leases, p. 192. In the notes on that page, there is a quotation which, after describing the nature of the question now alluded to, proceeds thus—'The Lords found, that whatever operation or melioration a country tenant made upon the houses, if habitable, for his own easier dwelling or accommodation, as striking out new windows, or glazing them, or making a halling to break the force of the wind, &c. he could claim nothing on that account; the master was obliged to him, but he could not retain his rent on that account; neither could he demolish or take them away,' &c. The note then goes on—'Such were the grounds on which the judgment in this case proceeded; and it fixes, 1*st*, That repairs *for the accommodation of the tenant* cannot be charged against the landlord: 2*dly*, *That they cannot be taken away*,' &c. A decision was lately pronounced by the Sheriff of Berwickshire, in a question at the instance of Sir James Hall, against one of his tenants, named Dodds, which, the respondent is informed, fully recognized the principle he now contends for. Another decision, completely in point, was pronounced by the Sheriff of Linlithgow, so recent as 27th November last, in a process at the instance of an incoming against the outgoing tenant of a farm, (Mr Wright, now farmer at Papple Westmains in this county), who, in removing a thrashing machine erected by him, attempted also to carry off the joisting, flooring, &c. of the barn adjoining; and as the *merits* of that case are so *directly the same* with the present, in every particular, the respondent will take the liberty of engrossing the interlocutor at length, which is in these words. '*Linlithgow*, 27*th November*, 1807.—The Sheriff having considered this petition, answers, replies and duplies; Finds, that the defender is not entitled to take down or carry away the

'shed or roof which covered the machinery of the thrashing engine, nor to take down or carry away *the joists or lofting of the barn adjoining the said engine;* which lofting the Sheriff understands not to consist of loose boards, but to be a proper and complete lofting, and firmly united to the joists and timbers of the building, and thereby rendered part of the same: Ordains the defender, within one month from this date, and at his own expense, to return and put up again, in a sufficient manner, such parts of the said joisting and lofting as he has already carried off and taken down; and, in case of his failure therein within the time aforesaid, authorises and empowers the complainer to replace the same with new joists and boards at the defender's expense, he keeping an account of the charge of that operation: Finds expenses due.' In short, there does not exist a doubt, that, although an outgoing tenant is entitled to remove the *whole machinery* of a thrashing machine which he may have erected on the farm he ceases possessing, yet it is equally indisputable and clear, that he cannot remove the joisting, flooring, partitions, &c. of the barn which adjoined said machine, nor even the horse-course thereof. This distinction was noticed by your Lordship in a process, Gray against Deans, lately decided in this Court, wherein you 'found the respondent had a right 'to remove and carry off the *machinery* of the thrashing mill in 'question, but that *he had no right to pull down or remove the 'horse-course thereof.* In respect whereof,' &c.

To the above answers, replies were immediately lodged; and many of the arguments used are well entitled to dispassionate consideration from the landed interest in every quarter.

'The question before the Court is of a simple nature, not involved with points of law, and little influenced by precedents or decisions. The introduction of machinery into the business of agriculture, is of modern origin; therefore, few judicial proceedings have occurred, betwixt outgoing and incoming tenants, concerning it. In fact, since machinery for thrashing corn was invented, a question similar to the present one has scarcely been agitated. It is believed, that no more than four decisions have as yet been given in the inferior courts of Scotland, and that three of them were favourable to the principles now to be maintained in behalf of the petitioner.

'As the respondent admits, in the fullest manner, the right of the petitioner to remove the whole thrashing machine, and its *relative* articles of machinery, the question, at first sight, would seem to be completely settled; for, assuredly, the petitioner does not seek to remove a single article but what is requisite in the working of the machine. But, after making this broad and very important admission, the respondent insists upon a judicial combat

(these

(these are his own words), to determine whether the joists, flooring, partitions, beams, &c. come within the above description. It shall therefore be the business of the petitioner to show, that the whole of the articles contended for, in the present action, are component parts of the thrashing machine; or, which is the same thing, that they must necessarily be used when the machine is employed in separating corn from the straw, and cleaning and preparing it for market. If the petitioner can show, that the arduous tasks of thrashing and dighting corn cannot be performed, by the machines now in use, without the aid of the articles afterwards to be enumerated, he confidently trusts that success will accompany him in the present action.

'The articles claimed by the petitioner, and detained by the respondent, are, *1st*, Two large beams which reach across the horse-course or shed, and into which beams the upper gudgeon of the main wheel runs. *2d*, The bolster or bottom piece, in which the lower gudgeon of the main wheel works. *3d*, The frame placed in the fore-wall of the thrashing barn, into which the face wheel is fixed that drives the lying shaft, immediately connected with the drum or cylinder. *4th*, The loft on which the drum or cylinder is erected, and the beams or joists on which the deals or flooring of that loft is laid. And, *5th*, The partitions which separate the inner-barn and chaff-house from the rest of the buildings. Every one of these articles were erected at the sole expense of the petitioner; and he made them under the understanding, that they were to be at his disposal at the conclusion of the lease.

'From the description already given, your Lordship will comprehend, that the other parts of the machine would be useless, were they not aided and assisted by the articles enumerated. For instance, how could the main wheel be brought into action, were its gudgeon not to run into eyes fixed in the bolster and beams? and how could the drum or cylinder reverberate, and beat out the corn, were it not erected upon a loft supported by beams or joists of more than ordinary strength? One of the beneficial purposes of the machine is, that the grain is cleaned as fast as it is thrashed. But how could this purpose be accomplished, were partitions in the barn wanting, whereby the clean grain is kept separate from the offal and chaff? In short, the respondent, in his answers, does not use one argument for detaining the above articles, which might not, with equal strength, have been applied to the detention of those he has suffered to be removed. The articles removed are useless without the aid of those detained; and it is only making a distinction, when in reality there is no difference, to assert, that some branches or parts of the machine, must be regarded as fixtures, erected for the benefit of the

property, while the fanners, firmly fixed to the ground floor, and the bed on which the cylinder revolved, and which was fixed to the loft by the strongest nails that could be made, are acknowledged to be the property of the petitioner.

'The petitioner is aware, that the joists being built into the wall, it may be urged, that they thereby become fixtures; therefore, not removable by a tenant at the conclusion of his lease. The petitioner, with submission, considers an objection of this nature to be more specious than solid; and humbly presumes, that slender consideration is required, to discriminate betwixt the ancient rules which regulated fixtures, and those now in common use respecting agricultural machinery. Formerly, the barns of a farmer consisted entirely of walls and roofs; therefore, it was impracticable to take down or remove any part of the fabric, without doing injury to the remainder. At this time, the farmer's corn barn may be compared to a large manufacturing house containing valuable machinery, erected at a great expense, and every part so put up, as to be easily taken down, without endangering the walls or roof of the tenement. Under these impressions the petitioner acted. When he prepared to remove the joists and beams, masons were provided to fill up the gaps, and to put every part of the walls in good and complete condition. Had he injured the walls, of course he was liable; and your Lordship will not credit, that it ever entered into his mind to do any thing inconsistent with the duty obligatory upon him to his late honourable and respectable landlord.

'From what has been stated, it is humbly hoped, your Lordship will have no difficulty in ascertaining, whether the articles belonging to the thrashing machine of the petitioner, and detained by the respondent, are or are not rightly characterized in the *Answers*, as 'articles of repair which had been bestowed 'on part of the premises now occupied by the respondent.' Nor will your Lordship have greater difficulty in determining, whether the loft, partitions, beams, &c., are, or are not, *appendages* of the thrashing machine, erected at the sole expense of the petitioner. The respondent seems to think, that a thrashing machine may be worked without these appendages; but he might as well have maintained, that the mail-coach could travel to London without wheels and axletrees. In short, the respondent absolutely trifles with your Lordship in this branch of his Answers.

'The only argument of the least weight used by the respondent is, that the joists being built into the wall, cannot be removed without damage to the premises. But your Lordship will be so good as attend, that this argument applies only to the *joists*, and not to any of the other articles detained; and you will also

be

be pleased to consider, that these joists, being placed only nine inches within the walls, may be removed in an hour or two, by any skilful mason, without doing the slightest damage to the building. Should your Lordship think otherwise, the petitioner has no objection against cutting the joists close by the wall, which will effectually prevent the danger so much dreaded by the respondent. Indeed, the orders given to the mill-wright employed to take down the machine, were precisely the same with what is now expressed.

'What were the respondent's intentions, when he furnished your Lordship with an extract from the proceedings of the superior Court in 1707—a period when an idea of thrashing machines had not entered into the mind of man—the petitioner is at a loss to determine. Had the petitioner attempted to carry off the horse-course, the respondent with some degree of grace might have brought the business of Sir John Houstoun into his Answers; but as such a removal was never thought of, far less attempted, any thing bearing upon it, directly or indirectly, must be regarded as a frivolous way of blinking the main question, by the introduction of extraneous discussion.

'If the petitioner is rightly informed, the decision of the Sheriff of Berwickshire was directly contrary to what is averred by the respondent. And with regard to the judgment pronounced by the Sheriff of Linlithgowshire, it would seem, from the words of the interlocutor, that that learned Gentleman had but an imperfect conception of the nature and powers of a thrashing machine, otherwise he would not for a moment have imagined, that the loft on which such a machine was erected, could possibly be formed of '*loose boards.*' But without recurring to the decisions of any other Judge, the petitioner reposes his confidence in the decision recently pronounced by your Lordship, in the case of Gray and Deans, according to which, the outgoing tenant was permitted to remove similar articles with those now the subject of litigation. A decision of the like nature was also given by the Sheriff of Fife about 18 months ago; and the petitioner may mention a circumstance well worth your Lordship's notice at this time, viz. that another tenant of the estate, of which the farm of —— ——— forms a part, was peaceably permitted, two years ago, to remove, not only what is technically called machinery, but also the several appendages belonging to his thrashing mill, without which the machinery was altogether useless.

'When determining this question, your Lordship will consider, that the interest of agriculture is materially concerned in the issue.—The erection of thrashing machines has been of incalculable advantage to the proprietors of land; because, it enabled

tenants to pay much more rent, than was practicable before machines were introduced.—In many counties of Scotland, these machines are only partially erected; therefore, any discouragement given to new erections, must of course serve to lessen the value of landed property. When tenants are assured that machinery, and its appendages, are as much their property as horses employed to work the machine, a doubt need not be entertained, but that machines will in a few years be disseminated over the whole country; but, should it be understood, that the appendages are to be considered as fixtures, or as an amelioration of the property possessed for a limited time, then machines will either be neglected, or, which is nearly the same thing, will be erected in a superficial manner, at least in a way to which the term *fixture* will be altogether inapplicable. Had the petitioner thought of this action, he could with ease have erected the machine in such a way, as would have prevented your Lordship from receiving the trouble given on the present occasion.

'Before finishing these replies, the petitioner thinks it but right to inform your Lordship, that this action is not brought with any view to prejudice, or injure, his successor in the farm of —— ——. The machine, and its appendages were repeatedly offered to the respondent, at a valuation to be made by neutral persons mutually appointed; which offers, for reasons best known to himself, the respondent declined to listen to, till the petitioner had entered into terms with another person. The respondent then professed his willingness to treat for the machine; but received for reply, that it was then too late, as another purchaser was in the field. Whether this issue originated the present action, the petitioner will not take it upon him to say; but he thinks it right to hint these matters to your Lordship, so as his motives in bringing this action, may not be misinterpreted. *In respect whereof,*' &c.

The following interlocutor was given out by the Sheriff-depute.

'The Sheriff-substitute having considered the petition, answers, and replies, and advised with the Sheriff-depute, finds, in terms of the prayer of the petition, with the exception of the *joists* built *into the wall*, which the Sheriff finds to be *fixtures* that cannot be removed by the outgoing tenant, and prohibits and discharges him from so doing; but finds him entitled to remove the other articles put up by him as appendages to his thrashing machine, and prohibits and discharges the respondent from interfering with him in so doing; Finds no damages or expenses due, and decerns; and appoints this interlocutor to be immediately intimated to parties' procurators.'

Against

Against this interlocutor a reclaiming petition was offered, and refused by the Sheriff-depute without answers. The incoming tenant then applied by bill of advocation to the superior court; which bill was passed by Lord Woodhouselee, on the ground that the question was a new one, therefore meriting discussion. Accordingly, the bill was discussed before Lord Newton, who, after a full hearing, was pleased to confirm the Sheriff's interlocutor, and to decern against the incoming tenant for the whole expenses incurred by the bill of advocation.

Had the outgoing tenant been disposed to present a cross bill of advocation, it is probable he would have prevailed to the full extent sought after in his petition, by obtaining liberty to remove the joists, which the Sheriff had been pleased to consider as fixtures; but, satisfied that a principle was established, of important consequence to the interest of the tenantry of Scotland, and convinced that that interest would not suffer from the limitation adopted by the Sheriff, he was averse from pushing the matter to its uttermost extremity. A practice, some time ago introduced, has already become pretty common, whereby the joists of a mill barn are placed upon posts and beams, in which way they cannot, by any interpretation, be considered as fixtures. It is therefore recommended to all tenants who may erect thrashing machines, to construct the loft in the above manner; and, by so doing, they will be fully entitled to remove the whole appendages of thrashing machines, the horse-shed excepted, which may, with some propriety, be regarded as a fixture, therefore not removeable by the outgoing tenant.

The above process is detailed, not with the slightest intention of giving offence to any person, but merely with a view of informing the tenantry of Scotland with respect to rights, which have been often denied, and sometimes contested. Perhaps the plan most conducive to the interest of all parties, would be for the proprietor, at the conclusion of the existing leases, to purchase both machinery and appendages, transferring them over to the new tenant as fixtures, and taking him bound to leave the whole in workable condition at his departure. The trouble and expense of taking down and re-erecting a thrashing machine is considerable; besides, it often happens, when the parts are once separated, that they cannot again be sufficiently put together. These risks and inconveniences would be completely avoided, by adopting the plan now recommended; and, whilst disputes betwixt outgoing and incoming tenants would be narrowed, the interests of proprietor, occupier, and the public, would be greatly promoted. N.

BRANCH II.

REVIEW OF AGRICULTURAL PUBLICATIONS.

General View of the Agriculture of the County of Inverness; with Observations on the Means of its Improvement. By James Robertson, D. D. Drawn up for the Board of Agriculture and Internal Improvement. pp. 447. London, Phillips. 1808.

DR ROBERTSON, ſome years ago, appeared in our court, (*vid.* vol. I. p. 191.), and, after being minutely and impartially examined by our reviewers, was found duly qualified to act as an agricultural reporter. In his View of Perthſhire Huſbandry, much appeared deſerving of praiſe, and little meriting cenſure; and ſomething to the ſame purpoſe may be ſaid of the work now before us. At this time we ſee little cauſe to change the opinion formerly formed of Dr Robertſon's abilities; though we cannot avoid remarking, that he labours under ſome prejudices, and indulges too frequently in animated declamation. Still, as an intimate knowledge of human character, and an eager deſire to promote agricultural improvement, are conſtantly diſplayed, we are inclined to conſider this performance as not inferior to his former one. We differed with him on ſome points formerly; and we muſt differ with ſeveral of his opinions on the preſent occaſion, particularly, when he treats of what may be called the new ſyſtem of Highland huſbandry. Here, he ſeems guided by principles ſimilar to thoſe which influence our worthy and benevolent friend, Mr Dempſter: but, though theſe principles are, in our opinion, incorrect; yet, being founded in a deſire to promote human happineſs, they are, though miſtaken, entitled to reſpectful conſideration, when examined and diſcuſſed.

The county of Inverneſs, generally ſpeaking, is a mountainous diſtrict, of great extent; bounded on the ſouth by Argyle and Perth, on the weſt by the Atlantic Ocean, on the north by Roſs and the Moray Frith, and on the eaſt by Nairn, Elgin, and Banff. The ſurface of the diſtrict is moſtly covered with heath, though in the valleys or ſtraths much ſoil of good quality is to be found. In the Aird, or that tract which lies on the Beauly Frith, there is ſome rich clay land; and to the eaſtward of Inverneſs, a conſiderable breadth of arable land appears. The extent of the diſtrict is ſuppoſed to be between four and five thouſand ſquare miles, and the number of inhabitants ſeventy-four thouſand.

From this abſtract account, our ſouthern readers will at once diſcern, that the county of Inverneſs is not calculated for carrying

on

arable huſbandry, on any thing like a great ſcale; and that far the largeſt part of it muſt be conſtantly devoted to the breed- of cattle and ſheep. Formerly the cattle ſyſtem was, almoſt every caſe, followed by the inhabitants; but, latterly, it has n completely aſcertained, that the ſoil may be more profitably ployed in rearing ſheep; in which way, a much higher rent be paid to the landlord, and a far greater quantity of food vided for the public, than practicable under the ancient ſyſtem. ſheep farms muſt of courſe be of greater extent than cattle s, and as few of the former huſbandmen were qualified for car- ng on ſheep huſbandry in a proper manner, a change of ſyſtem ceſſarily occaſioned a change of tenantry, conſequently, was the ans of throwing many of the old poſſeſſors out of employment. e change, however, has as yet been only partially carried into cution, and ought not to be forced faſter forward than local cumſtances will warrant. To let things take their natural courſe, he beſt policy on all occaſions. That they will ultimately take right courſe, if not obſtructed by artificial regulations, may be arded as a truiſm; therefore, every attempt to limit the right individuals in the management of their property, can only be nſidered as unwiſe and impolitic,—as tending to retard the im- ovement of the country, and to keep the inhabitants in a ſtate miſery and ignorance.

Having made theſe preliminary remarks, we ſhall notice ſome rts of the work, though extremely ſorry that it is out of our wer to give an examination equal to what it merits.

After ſtating, that the remains of the feudal ſyſtem were legal- abolished in 1748; and that the inhabitants of the Highlands, ce the adminiſtration of Lord Chatham, have been truſted in ery war with arms, Dr Robertſon exclaims,

'How are theſe people to be treated? Is Government bound to do y thing for them, or is it not? Are Kings to be nurſing fathers, and reens to be nurſing mothers, according to the dictates of the higheſt thority regarded by mankind? Is it not enough, that upwards of an ndred thouſand of theſe people have already been under the neceſſity leaving their country, never to return? Muſt the remainder be com- lled to follow that example? Is there no remedy to prevent this vo- tary exile of its inhabitants? Are the Highlands to be depopulated? this limb of the empire to be abandoned as uſeleſs, when threatened th a mortal diſeaſe? Does the State owe no paternal regard to theſe n? Is it not a debt of gratitude due by their country, to cheriſh em? Is it not the ſoundeſt policy to nurſe and to rear that race of ople? Have they not conferred on the empire the moſt important ligations; and is there no return to be made, no duty to be perform- , in requiting theſe obligations? Are all our wars at an end? Is ere to be no future ſtruggle to ward off danger, or to maintain our

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rank in the ſcale of nations? Is there no ſuch virtue in the ethics of this country, as public or national gratitude? Is gratitude confined to individuals alone, to inferiors only, or to perſons of the ſame rank in life? Does this amiable virtue, which has always been thought to require no law to recommend it but its own native excellence, riſe no higher among men? Is no return, no thankfulneſs, no recompenſe, due from the great to the little, from the high to the low, for the moſt ſubſtantial favours? Is there no regard to be paid to their intereſt, no good offices due from the governing to the governed, for all that theſe people have done, and are ſtill willing to undergo, in ſupport of the glory and proſperity of Britain? Yes, ſurely. The national gratitude is always awake. Our Admirals and our Generals frequently receive the public thanks of their grateful country, are enriched by the bounty of the Senate, and ennobled by the gratitude of their Sovereign: and are not the men of meaner condition and of lower rank, who enabled theſe leaders to conquer, deſerving of ſome reſpectful mark of attention, of the ſame nature, though not in the ſame degree, which may be ſuitable to their conditions and circumſtances in life? That they are, none, it is preſumed, will deny. The national principle of retribution in good offices, is the ſame in both caſes; and the merit of having earned them, is ſimilar, though of a different amount; and although the ſeparate merit of every individual in the ranks cannot amount to that of their commander, yet the valorous deeds of a whole army are worthy of notice; and the meritorious earnings of a whole million of people, the ſuppoſed population of the Highlands of Scotland, *while entire*, deſerve to be rewarded by ſome mark of national beneficence. The achievements of ſuch a body of brave, loyal men, which are already upon record in the annals of their country, and the future deeds of valour, of which they are capable, in its defence, if they remain in Britain, are objects of the laſt importance. There can be no apology for treating that people with neglect; no excuſe for the Government of this country for ſuffering them to be loſt to Britain. We muſt be regarded by the world, not only as devoid of compaſſion, and ſtrangers to humanity, but as guilty of national ingratitude, indifferent to our own proſperity, and politically blind, unleſs the wings of protection be ſpread over them, and every nerve ſtrained to render emigration unneceſſary, and prevent their removal to another country. But this can only be done by conciliating their affections, and by providing in good earneſt the means of their comfort and happineſs at home.

'What is to be done to prevent the Highlands from becoming a deſert? What remedy ought to be applied to ward off in time this national calamity, which may ſoon become irremediable? How are theſe mountaineers to be retained in their own country, and that race of people preſerved from becoming extinct in Britain?' Introd. p. viii.—xi.

Such a multitude of queſtions are put in the above paſſages, that a week's time would hardly ſuffice to anſwer the whole of them. To the ſecond queſtion, however, it may be anſwered, that Government has done more for the Highlands than for any other part of the British

British empire. Has not four or five thousand pounds *per annum* been voted every session, since General Wade commanded in Scotland, for making and repairing Highland roads? And is not Government at this day making one of the most extensive and noble canals ever attempted in the British empire, the expense of which is to be defrayed entirely out of the public purse? Is not the same Government at one half of the expense of the many roads and bridges now constructing through Highland districts in every direction? In short, Government has done every practicable and feasible thing which could serve to further improvement in these remote and uncultivated districts.

Again, if a hundred thousand Highlanders have already been under the necessity of leaving their country, and seek employment, either in the southern counties of Scotland or in America, it does not follow, that government are to be blamed on that account; because it is an undoubted truth, that there are at the present moment full as many people in the Highlands as are wanted, notwithstanding of the numerous public works carrying on in every quarter? Does Dr Robertson mean to convert the Highlands into a breeding warren, out of which the army and navy may be constantly recruited? Or, does he mean to recommend, that the people of that part of the island should be supported, either at the public expense, or at the expense of those who possess landed property in the districts which compose what is called the Highlands of Scotland? If he does not mean one or other of these things, he means nothing at all; and the accumulation of sonorous words in the passage under consideration, can only be regarded as idle declamation, calculated to create strife and division amongst the people, by making them believe that Government is inattentive to their welfare and happiness.

Dr Robertson entertains a high opinion of the Board of Agriculture. He says, p. xvii. of his Preliminary Observations, 'what the Board of Agriculture has already done, is a presage of what they are desirous to do, for the good of their country. Their industry has been unremitted; their activity has surmounted many difficulties; their wisdom, in devising the best plans of improvement, and their perseverance in pursuing them, demonstrate the utility of such an institution.' Now, it is well known, that, from the outset, we have been steady supporters of the Board of Agriculture; but our partiality for that meritorious institution, will not allow us to accompany Dr R. the whole length of his statement. The Board did a great deal of good, when surveys of the agriculture of the island were ordered; but, with regard to the value of many other measures, we are much at a loss how to make an estimate. A paucity of funds prevents the bestowing of premiums

miums for new inventions and discoveries; and it is not to be expected, that a Board, composed of rich landed proprietors, can be well able to teach much improvement in practice. The Board has certainly done what could be done by such an establishment; but to praise it for devising the best plans of improvement, &c. &c., may perhaps be considered as caricaturing its proceedings, rather than conveying approbation of the well meant endeavours of its members.

Speaking of the Fisheries, concerning which Dr R. is very sanguine, a great mistake is committed, respecting the population of Highland districts. Dr R. estimates the population of those districts at one million, though it is certain, that the whole does not reach one half of the number reported. He says,

'If the population of these provinces, which are termed the Highlands, be one million; if one half of these be males; if, again, *one half of these be men acquainted with the sea*—here you have two hundred and fifty thousand males of all ages, who have either been in their youth, or now are, or, when grown up, shall be, intrepid sailors. Let one half of these be deducted, as too young, or superannuated, and there remains one hundred and twenty-five thousand in the Highlands, fit, at all times, as things now stand, for immediate service on board his Majesty's fleet, upon receiving proper encouragement. Nevertheless, the matter cannot remain in this situation. Either the Highlands will be depopulated, if they are neglected, or the numbers of the people may be increased; nay, I expect to demonstrate before this Report is brought to a close, that their population may be at least doubled, and better fed and better lodged, by proper attention, than they are at present. The national advantages which a maritime state is able to derive from subjects duly bred to the sea, are so great and so manifest, that it would be wasting time to enter largely upon that subject. Whoever sees not the truth of this at a glance, or would require it to be established by proof, is blind to the interest of his country, and ignorant of the history of the world. What was it that raised the Tyrians of old to such eminence and wealth? Their sailors. What was it that enabled the Carthaginians so long to rival Rome in her best days? Their sailors. What was it that brought the paltry kingdom of Portugal, during a certain period, to such a rank in the scale of nations, and enabled the Portuguese to colonize great and distant countries? Their sailors. What raised the fishing villages of the Dutch, in the midst of marshes and swamps, to be great and flourishing cities? Their trade. But what gave them that trade and wealth, and enabled them, about a century and a half ago, haughtily to assert the empire of the ocean? Their fishermen becoming sailors. What has raised our own country to a pitch of glory and power, unexampled in all former ages? Our Navy. What will secure our prosperity, our independence, our very existence? Our Navy. What will enable us to transmit our privileges

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to our children? Our Navy. Let Europe, *if it must happen*, be turned upside down; but let my country dread no foe, while she is wise enough to be adding to her naval strength, to be cherishing her sailors, and keeping her fostering arms around every nursery of future seamen.

'Suppose that the proprietors in the Highlands should be averse to establish fishing villages, in proper stations and under proper regulations, upon their estates; (but I cannot suppose it): yet let us suppose that any of them would be unwilling to do so; is it not competent for Government to say, there is a station on your property fit for a village, with suitable accommodations for fishermen; either establish a village there yourself, or dispose of a piece of ground in that place to the State, according to the valuation of a jury, and we shall colonize it? It is not the province of the writer of an Agricultural Report to give judgment between the public and a private proprietor, in this or any other matter. Absolute power must reside somewhere in every effective government, and it must be understood to be generally competent for that government to provide for its own preservation, by the exercise of this power, with or without instances to exemplify every supposable case. But the analogy in the matter alluded to is very nearly allied, if not exactly similar, to what happens almost every session of parliament, in regulating the embellishment or enlargement of cities, in changing the line of roads, and in directing the course of canals.' Prelim. Observ. xxi.—xxiii.

Now, it strikes us, that the establishment of fishing villages in the Highlands would not be of much benefit under existing circumstances; and in support of this opinion, the situation of those villages, erected under the patronage of the Society established for promoting British Fisheries, may be quoted. But Dr Robertson would compel landed proprietors to erect such villages, whether they were or were not beneficial to their interest; at all events, he would make them dispose of ground sufficient for erecting these establishments. Highlanders have always been considered as good soldiers, but, as seamen, their merit has not hitherto been sufficiently ascertained. To speak of there being one hundred and twenty-five thousand men in the Highlands fit for service on board his Majesty's fleet, is worse than nonsense. It is a disputable point whether there are so many men above twenty years of age in the whole of the Highland districts; but, were that number to be found, it is plain that not more than one fifth of them could be used for the sea service without materially injuring every other branch of business.

In describing the field of battle at Culloden, Dr Robertson falls into a slight mistake. He says, 'Even the stone-walls on their right, which the rebels expected to have been some protection from Stapleton's dragoons, proved only a forlorn hope.' Now, it is well known that General Stapleton commanded the

French

French hussars sent over to assist Prince Charles, consequently could not be in the situation mentioned; also that the British dragoons at Culloden, who, with the Argyleshire Fencibles, broke down the wall in question, were under the command of Lieutenant-General Henry Hauley. We merely notice these circumstances, so as the subject may be more distinctly elucidated in a subsequent edition.

The account of Sir James Grant's estate is detailed in Dr Robertson's best manner, and we extract it with much satisfaction.

'Sir James Grant holds the supreme military command of the county, under his Sovereign. He is beloved to adoration by his people; and not only commands the obedience of their personal services, as Lord-Lieutenant of Inverness-shire, but the grateful affection of their hearts, as the benefactor of this county, and the father of his tenants.

'From Castle Grant to Avemore, along the side of the Spey, the face of the country is very much diversified. In some places, the antient mode of occupying the ground remains in full force: cottages crowded into hamlets; the farmers living in clusters, all in one place; their land open, and in alternate ridges. But in other places the land is enclosed, and a neat steading set down for a substantial tenant; and where the people are less affluent, the ground is divided into separate lots, of fewer or more acres, according to the ability of the occupants, where every tenant is set down upon his own lot; which mode of settling the country, with the addition of villages in proper situations, I hope to demonstrate, is the most effectual plan of preserving the population; of accommodating the people, and of preventing the baneful effects of emigration; while, at the same time, the country is improved, and rendered capable of producing more rent to the proprietors. What an extensive field does Strathspey, and indeed every province of the county, open to the landlords, of providing for double the number of people (were it necessary) that are at present in the county, by encouraging and directing the inhabitants to the means of cultivating the immense tracts of waste land in every district of the county!' lvii. lviii.

We cannot pass over the account given of the Dutchess of Gordon's cottage on the Spey, which is given with much precision. In giving topographical descriptions, Dr Robertson excels the most of people.

'At a short distance above this place (Rothiemurchus), and on the opposite side of the Spey, Kinrara, the cottage of the Dutchess of Gordon, is happily set down. The vale, in which the river flows, is narrowed considerably at Kinrara. The banks on both sides are richly wooded by a variety of trees, whose green foliage far up the acclivity of the hills, gratifies the eye, and the sweet fragrance of the birch embalms the air. Some beautiful fields are formed by the serpentine course of the river, which glides by with an equal, but not rapid motion, on its pebbled bed. This mansion stands on the brow of a small wooded hill, in a commanding situation, with dropping trees on the fore-ground, fronting

fronting the ſouth, and in full view of the river and all the ſurrounding ſcenery. The piazzas along the front, the Venetian windows, the elegance of the apartments, the furniture, the library, and the ſtyle of the whole, diſplay the moſt exquiſite taſte, and ſhow that Kinrara is no ordinary cottage. If the Graces had ſuperintended the building of a lodge for their Queen, it might have been conſtructed after this model. But the captivating appearance of the cottage is only the ſhadow of the hoſpitality that reigns within.

'The garden is cloſely emboſomed in wood, ſheltered from every blaſt, and under the direct rays of the meridian ſun, with a gentle declination. The drilled turnips, and the other crops, demonſtrate the variety of talent and ſtrength of mind, which are the ſprings that move all the operations about this ſingular place.' lix. lx.

In the section wherein ſoil and ſurface is treated of, we obſerve ſome very judicious obſervations. For the benefit of our readers, what is ſtated reſpecting moſs, moor, and heath ground, ſhall be extracted.

'*Moſs, moor, and heathy ground*, in the opinion of ſome intelligent perſons, cover two-thirds of the ſhire of Inverneſs. If one fortieth only be arable land, according to the account formerly taken notice of, there are probably twenty-ſix of the remaining parts covered with heath, incumbent on moſs, or a till bottom. Heath generally produces a cruſt of moſs on the ſurface, whatever be the ſoil below. The land occupied now or formerly by natural firs, aſſumes the ſame appearance, becauſe they ſeldom grow ſo cloſely, or ſhade the ground ſo completely, as to deſtroy the heath.

'While ſuch a great proportion of the county is under the poſſeſſion of this plant, which is gloomy in its appearance and barren in its nature, it is an object of conſiderable importance, to deviſe means either of converting it to ſome uſeful purpoſe, or of circumſcribing its boundaries.

'When the heath begins to ſpring towards the beginning of ſummer, cattle are very fond of the tender ſhoots, provided the heath be young. This ought to ſuggeſt the propriety of burning it down every third or fourth year. The ſhoots of young heath come forth more early, advance to a greater length, are more vigorous in every reſpect, and conſequently more nutritious, than after it is old. The aſhes, ſmall as they are, of the withered graſs, of the fungous or of the ſolid moſs at the root, added to that of the heath itſelf, give a kind of top-dreſſing to the ground. All this melioration of the ſoil is aided by the dung of ſheep, which reſort in great numbers to the ſpot that had been thus treated, and crop greedily the tender ſhoots of the new-ſprung graſs and heath. The moſt ſtubborn and barren heath will, by this management, change its nature, and the ſoil on which it grows become gradually more productive of graſs.

'In the third or fourth year of its age, the heath may be profitably cut down for hay, when in full bloom, about Lammas. If the ſurface be tolerably ſmooth, a ſtrong ſhort ſcythe may be uſed; but,

but, in coarse ground, this operation must be performed by the sickle. The hay may be dried in the same manner as grass-hay, and laid up in huts, where it is to be used. This practice is eagerly recommended in a manuscript, which Lord Sheffield, late President of the Board, did me the honour to send from London, besides all his other good offices, to assist me in this arduous Survey. We all know that heath hay is carefully saved in the North of Europe, which, with the branches of trees, occasionally lopt off, allays the cravings of hunger to cattle in a rigorous winter.

'Even in our own climate, when ferns are cut down, in the month of July, for litter to horses, it is well known, that if the ferns had been properly preserved, the horses will begin to eat them, provided the hay at any time were spent in their racks.

'High mountains are not covered with heath to the summit; nor are the mountains in all the districts of this county equally gloomy and forbidding. The hills of Lochaber are a good mixed pasture of grass and heath interspersed. Where this mixture takes place, the heath is naturally short and fine, and comes into the same bite with the grass; which in all cases affords a hearty and nourishing food for cattle. Glenivaish is of this description, though it forms the skirts of the highest mountain in Britain; the hills of Arasaig, freckled as they are with rocks; those of Glendessary; those of Glenspian; those of Glenqueich; those on the north of Glenspian; those of Glenroy; those on both sides of Loch Lochy, particularly at Lowbridge, where the hills in general are as green as a meadow; those on the sides of Loch Oich, to its northern extremity, where the dark brown heath begins on the west; those in both Glenelgs; those in the head of Strathglas, and in the braes of Badenoch; in all which places the hills are more or less of the same hue, and yield most plentiful pasture. But, on the confines of Strathspey, very different is the aspect of the mountains. At the head of Strathdearn and of Strathnairn, in Stratheric, on both sides of Loch Ness; from behind the head of Urquhart, and across Glenmoriston to the source of the Oich, and in other districts, the mountains are gloomy, black and sterile, in many large tracts, to such a degree, that in the distance of twelve or fourteen miles, hardly any verdure is to be seen, except where a solitary rivulet, by its occasional flooding, produces some green ground in part of its course, to relieve the eye.

'In all the mosses, the roots of fir-trees stick up, which are frequently dug out by the inhabitants and dried for fuel: so plenteous are they, and so singular in their appearance, that Mr James Grant, factor to Sir James, told me, he had seen in Strathspey three tier of fir-stocks directly above one another in the moss; where, no doubt, that wood had thrice come to maturity, after every former growth had, by its destruction, formed a soil capable of nourishing the succeeding forest. Upon any other supposition, these stocks must have been beside one another, but they never could have been perpendicularly above each other. What a length of time must have elapsed,

ed, before the spoils of one forest, mouldering down into a state of decomposition, could have produced a soil of such solidity and depth, thrice repeated in the same spot, as could carry a wood of the same species and magnitude!' p. 26—29.

Concerning breaking up and reclaiming moors, Dr Robertson gives the following sensible directions.

'Persons of considerable experience in the cultivation of moors, recommend the following process. Begin by removing the stones which appear above ground, in the manner already described; then yoke a strong plough upon the moor, when the labours of spring are finished. Let the ridges be broad, and the stones or other obstructions cleared away, as they occur. Continue cross ploughing and harrowing, at proper intervals, that the land may be thoroughly broken by the beginning of next summer. If a decent crop of drilled turnips can then be raised on the field, the undertaker may congratulate himself on the success of his experiment. The turnips ought, if possible, to be eaten upon the ground. But if the first crop of turnips should fail, a second crop of them ought to be tried the ensuing season. Turnips are recommended in preference to potatoes; because they thrive on a poorer soil; because they afford a more complete cover to the ground; because the loss, by their failure, is not so much felt as an article of provision; and because their being consumed on the ground will help to enrich it for a future crop of grain and grass-seeds. Not only the turnips, but the first crop of grass, ought to be depastured by sheep; taking care that not so many sheep be put upon it as will eat the grass bare; for in this case, the heart or germ of the plants may be in hazard to be bitten off, or the very roots pulled up.' p. 34.

The general state of the tenantry of Inverness-shire, may be pretty correctly ascertained from the section which treats of Farm-houses, Offices, and Repairs.

'The condition of the houses in which farmers and their cattle are lodged, uniformly indicate the state of a country, in respect of improvement. Many are the symptoms, of which this is one, how far a proprietor and his tenants understand or neglect their own interest. Where a stranger observes mean, dirty, inconvenient houses upon any estate, he concludes, without further inquiry, that the possessors of these houses are poor, spiritless and indolent, and, what is worst of all, perhaps oppressed. He concludes also, that the landlord, whatever be his splendour in the sumptuousness of his table, or the gaudiness of his equipage, has more vanity than judgment; a greater desire of dazzling the eyes of mankind, than of promoting the comfort of his tenants, or increasing the value of his own property. Where, on the other hand, the dwellings of the ordinary farmers are snug, comfortable and clean, this is a proof that the people both desire and deserve to be properly lodged; and that the landlord has such a degree of humanity, that he wishes to see his people happy, as well as himself. There is hardly an instance,

in which this conclusion is not drawn, and there is hardly an instance, in which it is not just. The houses of the tenantry, in any country, afford to travellers one subject of conversation on their journey, and constitute a leading article of their news to their friends, after their arrival at home. Who would incline, in these circumstances, to be held up as an object of derision or reproach, at the distance of some hundred miles? Who would incline to be stigmatized at any distance, great or small?

'The farm-houses built for gentlemen, or the wealthier sort of tenants, in this county, are well constructed and substantially built. Those of the poorer tenants are in most places mean beyond description. The huts of the Indians bordering on the Lakes of the St Laurence cannot be worse, in point of structure and accommodation. Were it my intention to irritate, I could easily give some account of these nasty hovels, or at least point out the estates on which they are most numerous and in worst condition; but my desire is to reclaim, without provoking, and to sooth into reformation by the mild language of persuasion. Even the manuscript sent to me by the Board, which seems to have been written by a native of that county, does not spare them; but I spare them, not from any approbation of the trespass, but from a fond hope of a change, and that too a speedy change of conduct. A man who retains any regard for his character, will reform sooner, while there remains some doubt of his being identified, than after he has been treated as a real culprit, and exposed by name and surname to the contempt of mankind.

'These mean houses are by far too numerous, on all the farms where they prevail. The inhabitants are too poor, for the most part, to build them properly, and therefore must increase the number, to provide accommodation corresponding to the circumstances of a stormy climate: and it would seem that the landlord cares nothing about the matter; his only object being to gratify the cravings of luxury, and to secure his rent.

'It is not meant to be insinuated, in the most distant manner, that all the dwelling-houses in this or any other country ought to be large or elegant, having courts of offices attached to them. This proposal would be equally absurd, as if it were recommended to render all the inhabitants equally rich, and equally industrious. But may not the cottages of the poor be made comfortable and commodious; more conducive to health and cleanliness, and more analogous to the progress of society in this country? While the higher ranks of the tenantry are better lodged than formerly, the lower ranks might be expected to advance a little in point of accommodation.' p. 55—58.

In describing the mode of occupation, Dr Robertson shows complete knowledge of the rural policy of the district under consideration. He ascertains the evils of the existing system with precision; though we afterwards find, that something like a continuance

tinuance of that system is recommended in the most animated and forcible terms. He says,

'The manner in which the soil is occupied, is a proof of the state in which the agriculture of any country is placed. There are certain regulations requisite in the management of land, in order to reap the benefit it is destined to produce; but if these regulations are not adopted, the soil is not brought to its full value. The object of agriculture is to increase its produce; and the purpose of all institutions and directions respecting the treatment of ground, is, to facilitate the means of accomplishing that end.

'When we see a number of farmers linked together about the same ploughgate of land; when we see all their houses huddled together in the same group, all their ground in alternate ridges, and their possessions without enclosures; these are strong symptoms of the low state of agriculture in that country. This at one period must have been the condition of all the counties of Scotland. The people chose to live in these hamlets for mutual protection: and while the proprietor was eager to increase the number of his retainers in feudal times, farms were divided and subdivided into very small holdings. The southern counties have emerged some time ago from this pitiful condition of indolence and poverty. In the northern counties, and in the shire of Inverness among others, much remains to be done, before this feudal aspect of the country is changed. In many parts of Inverness-shire, the change from alternate ridges (provincially *runrig*) has been slowly and very lately introduced; in some places it has not yet been adopted; and in one district, the practice, time immemorial, has been, for every farmer to hold his share of infield during a very limited period, generally three years, which then passed into the possession of another; but their land in this district is now divided into lots.

'The denominations of outfield and infield still prevail over one half of the arable ground of the county. The outfields are manured by the dung of cattle confined in folds, over night, during the summer and autumn, and then cropped while the land can produce any grain. The infields get all the house dung, and are cropped alternately with barley and oats, or frequently with two crops of oats after the barley.

'According to this antient system, all the contiguous tenants of the same landlord, used their hill-grass in common through the whole year.

'The dawn of improvement has, however, in some districts, begun to appear; and, by the exertions of a few gentlemen, who shine like constellations, the light of knowledge in rural affairs will soon be diffused all around them. Under a government, by which complete protection is equally held out to the poor and rich, by which the honest fruits of his industry are ensured to every man; and by the establishment of a Board of Agriculture to teach the most profitable mode of occupying the soil, the road to improvement and

wealth must be sought out by many who never trod in that road before; must be sought by all; and, if sought in earnest, it will be found.' p. 73, 74.

From what is stated in the preceding passages, Dr Robertson is of opinion, 'when we see a number of farmers linked together about the same ploughgate of land; when we see all their houses huddled together in the same group, all their ground in alternate ridges, and their possessions without enclosures;'—that these circumstances 'are strong symptoms of the low state of agriculture in that country.' Our sentiments on these matters are precisely the same with those offered by Dr Robertson; thinking that his notions are judicious and accurate. But what shall we say, after examining another branch of the work, where he supports the antient system of Highland husbandry; and reprobates with keen severity the changes lately introduced? In what follows, passion seems to have got the better of reason, otherwise a gentleman of so much good sense would not have expressed himself in such intolerant terms.

'In the county of Inverness, where the proportion of arable ground is so small, in comparison of that which can only be in natural meadow and pasture, it must be accounted a trespass against the State, and against the human kind, to alienate from the purposes of agriculture any small patches of land, where the plough can act, and throw them into sheep pastures. Does not the unmeasurable surface of hills and mountains afford plenty of room and plenty of food for sheep? Why then, alas! turn out ten or a dozen families to make room for a flock of sheep; and set them adrift into the wide world, without knowing where to go; without house or home? What a dreadful calamity to these poor people! How unfeeling and savage the heart, which is the cause of their wretchedness? A wretchedness never before heard of, since Scotland was inhabited! Who, that has the common feelings of a man, but must feel indignant at such barbarity!

'Ye theoretical writers on rural economy, who amuse the world with your fine spun cobweb dissertations, to deceive the proprietors of land and others, with plausible sophisms, equally equivocal and equally ruinous with the responses of the Grecian oracles;—who endeavour to shut their eyes on the miseries of depopulation, to shut their ears against the tale of woe, and to harden their hearts against the feelings of humanity;—come forward with your cant phrase—every thing will find its level—a phrase which, like the panacea of the ancients, you esteem as a plaster for all sores of this kind. You tell us, that when the price of grain falls low, land will be thrown into pasture; and when the price of meat falls, and that of grain becomes high, the pasture lands will be ploughed up: you then, without attending to intermediate circumstances, jump to your conclusion at

at once, asserting, that by throwing the arable ground into grass, the population of the country is not diminished. This discovery, which is thought by you as meritorious as the knowledge of the philosopher's stone, may be true in one sense, and false in another—locally or partially true, but generally false. Keep all the inhabitants, or an equal number, in any tract of this country, and I may perhaps be inclined to think well of your maxim; but when the bestial of a district are made to travel hundreds of miles, as they always are in this case, to fetch the highest possible price, what becomes then of your golden rule of a *level* in the district where these cattle were reared? Suppose that one-third of the inhabitants of the county of Inverness were banished or starved—not a bullock nor a sheep reared in the county would remain unsold, notwithstanding all this loss of people to their King and Country, or perhaps would fetch less profit to the graziers, when these bullocks and sheep were brought to the autumnal markets in the southern parts of the island. But perhaps you, Theorists, care not for population or depopulation; that point probably gives you little or no uneasiness. Do you believe that money is every thing, and that men are nothing? If you do so, no man will envy you of your sentiments.' 185, 187.

One or two observations occur; and with these we shall conclude our examination of this article.

In the *first* place, there is not much land in the county of Inverness well adapted for corn husbandry, except the district called the Aird, and the flat country about, and eastward of, the town of Inverness, where corn has been extensively cultivated for a long period, and will continue to be cultivated, even though the whole of the Highland part of the county were thrown into grazing pastures, and allotted for rearing sheep and cattle. To the low country part of the district, Dr Robertson's strictures, whether true or false, are neither directly nor indirectly applicable, therefore unnecessary to be noticed further at this time.

In the *second* place, it is true, that the extension of sheep husbandry undoubtedly causes a removal of many families who hold possessions on the banks of rivers, or in the glens of the Highlands; but are not these possessors the very people whom Dr Robertson formerly found fault with, and whose appearance he considered as 'strong symptoms of the low state of agriculture?' Besides, has not the tenant of a sheep farm need of the low grounds, so as hay may be provided for his bestial in the winter season, and potatoes and corn for the servants whom he employs. The removal of many of the old possessors, therefore, is not to be avoided, under the circumstances of the case; because, unless the land were given to them almost for nothing, as formerly, they could not exist upon these small possessions.

In the *third* place, as many public works are going forward in

every quarter of the Highlands, the people removed may, almost in every instance, find employment at home, provided they choose to work in a regular manner; which never was the case, nor could be the case, whilst they occupied small portions of land. But should sufficient employment not be found in their native districts, the southern ones hold out a market for labour, rarely overstocked, and where they may live much more comfortably than in their former hovels, which are justly characterised by Dr Robertson as worse, in point of structure and accommodation, than the huts of the Indians bordering on the lakes of the St Lawrence.

In the *fourth* place, unless the Highlands are to be considered as a breeding warren, and annual rents be paid by government for remunerating the losses of proprietors whilst their land is kept in an unproductive state, there seems something absurd in blaming proprietors for making the most of their property,—a liberty enjoyed by all other proprietors of land, and even by every class in the community. The welfare of the state depends upon the improvement of the country; and, as the full improvement of the Highlands cannot be obtained without a radical change of husbandry, it would be highly impolitic to throw any obstruction in the way of such a change. At the same time, we are clear, that the change ought to be gradual and progressive; consequently, would not be violent, or occasion more than a temporary inconvenience to the persons obliged to remove from their former habitations.

We meant to have made some other animadversions upon this Survey; but the length to which the article has already gone, prevents further extension. It may only be added, that Dr Robertson is an excellent writer, and very able (we don't say willing) to make the worse appear the better cause. He has faults, or, more properly speaking, prejudices; but if these are cautiously viewed, his Report of the Husbandry of Inverness may be read with much satisfaction by the amateurs of agriculture, being in general distinctly arranged, and perspicuously expressed.

N.

On the Advantages which have resulted from the Establishment of the Board of Agriculture; being the Substance of a Lecture read to that Institution, May 26th, 1809. By the Secretary to the Board. London, Philips.

SERVANTS are too often disposed to read lectures to their masters, though it must be confessed that these are seldom given in terms so pleasant and agreeable as used by Mr Secretary Young when lecturing his masters who sit at the Agricultural Board. This

is small, but complimentary treatise, may therefore be regard- as a perfect pattern to all servants disposed to bestow advice on their masters. By imitating this pattern, servants will be in danger of giving the slightest offence to those who are lectur- because the leading principle of the whole is admirably cal- ated to make the hearer think well of himself, consequently ures respectful attention to the advices in this way commu- ated. Of the truth of these things, take the following passage a notable instance.

On this principle, it might have been said by the Minister to ie of the leading members of the new institution, you, Sir John clair, have been active in whatever could promote the prosperity Scotland; you, Mr Coke, are happy in efforts for the improve- it of Norfolk; you, Lord Egremont act with energy for Sussex; , Duke of Bedford, manifest decided talents, to bid a happier ivation adorn the district that surrounds you; you, Lord Win- lsea, are alive to whatever is beneficial to Rutland; you, Lord ira, patronize the exertions of the farmer in Leicestershire; So- setshire looks to you, Mr Somerville (Lord Somerville), for your l in live stock; you, my Lord Bishop of Llandaff, whether in paths of science, or the fields of cultivation, never applied to any suit that did not flourish under your masterly hand; you, Mr loughby, have been for twenty years the chairman of your quar- sessions, with a perfect knowledge of all the rural concerns from ch originate the public business of a county; you, Mr Barclay, cated yourself in practical agriculture, and transferred the spirit Norfolk husbandry to the regions of the north; you, Mr Fordyce, le similar exertions on the wastes of Berwickshire; you, Mr Pul- y, have turned the keen calculations of private interest to the re- ces of the State; and you, Sir Joseph Banks, who have, so bene- lly to science, presided at the head of another institution, you, have contributed, by enlightened efforts, to render philosophy ervient to the promotion of domestic industry; assemble for ler purposes than local or partial exertions, and hail the coming ore brilliant days to the agriculture of Britain:—Such men as are, cannot meet and deliberate without effect; the result must eneficial to the agriculture of the kingdom. In this manner ht that great, but departed Minister, have addressed those, who first appointed Members of the Board; and it was on this plain simple principle, that *that* eminent statesman the Marquis of sdowne (as I know by a conversation I had with him on the ect), was induced, in a debate in the House of Lords, warmly pprove of the establishment of a Board of Agriculture, as the good exertion of Mr Pitt's administration.' 7, 9.

Our readers will remember the inquiries made under the au- ity of the Board, concerning the best way of breaking up old s land. This subject is noticed by the Secretary, though er in a confused manner.

'I come now to bring to your recollection, the method and success with which this institution obeyed a requisition from the House of Lords, to inquire into, and to report the means of breaking up certain portions of grass land, as a remedy for scarcity, and laying them down again, without injury to the proprietors. The Board deliberated with great attention upon this important object, and determined, by offering considerable premiums, to call to its assistance the information of practical men in every part of the kingdom. The plan was attended with all the success that could be desired: 350 memoirs were sent in claim of the premiums; the best of them were printed at full length, and extracts from many others; forming, on the whole, a mass of full and complete information, derived from the practice and experience of men, known to have been highly successful in their agricultural exertions. No subject, in the whole range of agriculture, was ever so fully elucidated; insomuch, that from these essays might be extracted a code of such authority, that it would be a species of temerity to start opinions hostile to the general result of these performances. Contrary opinions, it may be supposed, must occur in the productions of so many writers; but when these essays are perused with a measure of discrimination, they will be found to possess uncommon merit, and to establish a variety of data, built on too solid a foundation to be departed from with safety. They contain not only a description of the grass land which may be broken up with propriety, but of that from which the plough should be absolutely prohibited: they note the crops which should be planted, as well with a view to remedy the pressure of scarcity, as to provide for more ordinary demands; and they prescribe the mode of laying down to grass, according to every variation of soil. These memoirs further contain much other incidental matter of considerable importance; and they have, in various parts of the kingdom, been successfully acted upon. The first opposition which has been formed to the principles thus established, has been in the practice of certain farmers in North Britain, who have established themselves in several of our counties, by tempting landlords with the offer of great rents, to permit the breaking up of all the grass lands of their farms; and this in districts where the grass, from age and quality, is extremely valuable. Rent, given with this view, may so far exceed the usual ratio of a district, that if the excess be placed at compound interest for 21 years, it may form a fund, more than adequate to cover the mischief which the estate sustains; and if such fund should go to the person next in the succession, no injury might to him accrue. But this is reasoning upon a supposition that will scarcely be urged or admitted. When it is considered, that there is little comparison between the steadiness in the prices of the product of grass and the prices of corn, the latter being by far the most fluctuating, —when it is considered that these lands are a resourse, which should be preserved against the severity of famine;—and when further considered, that a false step cannot be recovered for many demand more than half a century to restore them to their

their former state)—when these circumstances are duly considered, there will be found sufficient reason to rely with confidence on the information contained in the memoirs alluded to; and seriously to question the prudence of accepting the bribe of present rent, at the expense of the future resources of an estate.' 34—38.

Now, what does the Secretary mean by stating, that the first opposition formed to the principles thus established, was in the practice of certain farmers in (from) North Britain, who have established themselves in several of our counties, by tempting landlords with the offer of great rents, to permit the breaking up of all the grass lands in their farms; and thus, in districts where the grass, from age and quality, was extremely valuable. Here it may be inquired, what were the principles established on the occasion alluded to? 1. That it would be of public utility to convert a considerable portion of the old pastures into tillage land; and in fact, this was taken for granted when the investigations were ordered, otherwise the whole were useless and unnecessary. 2. That these lands, after being ploughed for a certain number of years, might be returned to grass without waste or deterioration; and to accomplish these objects, the most suitable plans of management were distinctly pointed out. The North British farmers, censured by the Secretary, have therefore only followed out the system tacitly recommended by the Board, when these inquiries were entered upon; and the very circumstance of these farmers being able to pay higher rents on that account, proves that alternate husbandry is much more beneficial than the exclusive one formerly maintained. Either the Secretary must think that old grass should be ploughed, or that it should be kept in its present state. If he thinks in the first way, the censure bestowed is inconsistent with his principles; and if in the last way, his sentiments are hostile to agricultural improvement, which never can go forward, if one half of the ground is exclussively kept in grass, while the other half is incessantly devoted to tillage husbandry. To maintain that the old pastures should be reserved as a resource against famine, is absurdity in the extreme; for, if preserved in their present state, they cannot possibly furnish any additional supply in that year when the nation may be visited with famine. The scarcity which prevailed in 1799 and 1800 was the real cause of the inquiries afterwards made under the sanction of the Board, relative to the ploughing of old grass land; and there is reason to believe, that the result of these inquiries occasioned many acres to be ploughed, which, under different circumstances, would have been retained in grass: but the chief benefit of an alternate system consists in giving an opportunity of laying down old tillage land with grass seeds, thereby renovating its powers, and putting it in condition for carrying weighty crops of corn at an after period.

This

The cannot, however, be accompliſhed, while old paſtures are ſtrictly kept from the plough. At the ſame time, the breaking up of all theſe old paſtures is not contended for; it being plain that a certain part of them muſt and will be preſerved. To have a reſource, and not to uſe that reſource, is ſurely not acting very wiſely. Such conduct is like that of the miſer, who locks up his gold in an iron cheſt, inſtead of employing it in trade, or lending it to ſome other perſon who would pay him for the uſe of it. Exactly in this way do proprietors of old graſs land act. They will neither ſtir up the ſoil themſelves, and ſearch for the vegetive riches therein contained, nor ſuffer theſe things to be done by others, though a handſome premium would cheerfully be paid for ſuch permiſſion. Had we not ſeen old graſs land repeatedly ploughed, and enjoyed numerous opportunities of aſcertaining the important advantages of ſuch huſbandry, we would have ſpoken with leſs confidence when noticing the paſſage under conſideration: but, being well acquainted with the breaking up of old graſs land, and fully ſatisfied as to the benefits which follow from putting old tillage land under the graſs ſyſtem, even for the ſhort period of five or ſix years, we could not ſlip this opportunity of expreſſing our ſentiments on matters of ſuch importance, even though they ſhould be in oppoſition to the high authority of the Secretary of the Board of Agriculture.

Mr Secretary ſoars aloft in the concluding paſſage. Some people may think he ſpreads the butter rather thick; but, on this point, we have no time to give an opinion.

'I know not an interest in the community, to which this Board has not been a benefactor; and he must be a poor reasoner, who will attribute such effects to the parsimonious grant of 3000*l.* a-year. No, Gentlemen! money would not effect this: it is the union of great talents, of unquestioned patriotism, that assembles harmoniously in this room—men of every party and description, anxious for no other emolument than the pleasure of doing good:—this is the spirit which has animated your exertions—this has merited success, and it is this spirit that will command it.' p. 69, 70.

N.

A Letter to Sir John Sinclair, Baronet, M. P., President of the Board of Agriculture, containing a Statement of the System under which a considerable Farm is profitably managed in Hertfordshire. Given at the request of the Board. By Thomas Greg, Eſq. London. 1809.

It will be recollected that Mr Greg's farm was lately viſited and examined by the Duke of Bedford and ſeveral other amateurs of agriculture, who were highly pleaſed with the ſtate of the farm, and condition of the ſeveral crops thereupon cultivated. Hence we were anxious to lay before our readers ſome information relative

tive to the ſyſtem adopted by Mr Greg; and this we are now enabled to do in the fulleſt manner, from his letter to Sir John Sinclair, Baronet, recently publiſhed under the authority of the Board of Agriculture.

Hertfordſhire, generally ſpeaking, is of excellent ſoil, but managed in a very old-faſhioned and improper way. Moſt of the exiſting leaſes bind the tenantry to follow out a three-years courſe of huſbandry, or what is technically called two crops and a fallow, —the ſame rule preſcribed for the management of common field land at the time of William the Conqueror, and obſtinately retained in many Engliſh counties, notwithſtanding of the ſingular diſadvantages which are its neceſſary concomitants. To our enlightened readers, it would be offering inſult, were we to ſhow that good land, or land indeed of any kind, required to be ſummer-fallowed every third year; becauſe every one of them muſt be convinced, that a more extended courſe is not only perfectly practicable, but alſo adopted by every agriculturiſt whoſe knowledge is above mediocrity, or whoſe practice is not reſtrained by fooliſh clauſes in leaſes, either handed down from father to ſon, through ſucceſſive generations, or dictated by ignorant conveyancers, who know no better method than to copy what had been written by predeceſſors as ignorant as themſelves. We have ſeen the land of Hertfordſhire; and think moſt of it admirably calculated for an eight-courſe ſhift; ſay for, 1. Fallow, with dung; 2. Wheat; 3. Beans, drilled at intervals of twenty-ſeven inches, and horſe-hoed; 4. Barley with ſeeds; 5. Graſs, either to be made into hay, or uſed in the ſoiling of horſes and cattle; 6. Oats; 7. Beans, drilled as already mentioned; 8. Wheat. If dung is applied either on the clover ſtubble, or after the oat crop, preparatory for beans, a better courſe can hardly be found for the ſoils which compoſe the greateſt part of Hertfordſhire.

Our Engliſh readers may perhaps be ſurpriſed that we do not include a turnip crop when mentioning this courſe; but we obviate the objection by ſtating, that this valuable eſculent may be taken on ſuch parts of the fallow break, or upon the break No. 7. for beans, as are calculated for rearing it to advantage. We are perfectly ſatisfied of the utility of turnips in every modern rotation, whether conſidered as an article abſolutely neceſſary where ſtock is kept, or as the means of manufacturing ſtraw into dung; but cannot include this eſculent as a regular crop where the ſurface ſoil is of a heavy nature, or where the ſubſtratum is of a retentive kind. Under theſe circumſtances, agriculturiſts muſt judge for themſelves when or where turnips may be cultivated ſucceſsfully; but we can tell them with confidence, that, on a tenacious clay ſoil, they will neither cultivate them ſucceſsfully, nor to much advantage as a regular cleaning crop.

In

In making these preliminary observations, we have paved the way for what is to be stated respecting Mr Greg's manner of cropping. When we differ from him, it shall be done with diffidence; and this diffidence is increased by a firm conviction, that his mode of management is infinitely superior to what is ordinarily practised by the generality of his neighbours.

According to the old course of Hertfordshire husbandry, upon a farm of 240 acres, there were 80 acres annually unproductive, and no more than 160 acres under crop; in other words, there were 40 acres carrying wheat, 40 acres barley, 50 acres peas, beans, or oats, and 30 acres clover. Under such a system, it is obvious, the returns could not be great, nor the profit considerable; therefore we perused the following statement without feeling surprise, even though the rent is estimated at twenty shillings per acre.

'*System of Management and Expense of Cultivating Two Hundred and Forty Acres of heavy Land in Herts, arranged by Mr Thomas Mickley, who occupied a Farm of that description for Fifty Years under the Earl of Hardwicke.*

	L.	s.	d.
80 acres for summer fallow, 4½ times ploughed and harrowed, at 3*l.* per acre,	240	0	0
10 acres of the above sown with turnip-seed: sowing and hoeing 12*s.* per acre,	6	0	0
40 acres sown with 2½ bushels of wheat: seed and sowing 30*s.* per acre,	60	0	0
20 acres folded, 2*l.* per acre,	40	0	0
Carting, filling, and spreading dung, made upon the premises, upon 20 acres of the above wheat land, at 1*l.* 5*s.* per acre,	25	0	0
40 acres sown with barley: seed and sowing 1*l.* 5*s.* per acre,	50	0	0
Light manure purchased for 20 acres, at 3*l.* 10*s.* per acre,	70	0	0
25 acres sown with peas and beans: seed and sowing 1*l.* 12*s.* per acre,	40	0	0
25 acres with oats: seed and sowing 20*s.* per acre,	25	0	0
80 acres ploughed for the above crop, 12*s.* per acre,	48	0	0
30 acres harrowed twice, at 2*s.* per acre,	8	0	0
30 acres sown with clover upon the wheat: seed and sowing 12*s.* per acre,	18	0	0
Shepherd's wages forty-eight weeks, at 10*s.*	24	0	0
Expenses of harvest,	120	0	0
Ditto, making, carting, and stacking five acres of clover-hay, 20*s.* per acre,	5	0	0
Rent,	240	0	0
Tithe,	72	0	0
Poor's rates,	60	0	0
Carry over,	L.1151	0	0

			Brought over,		L.1151	0 0
Highway duty,					6	0 0
Weeding one hundred and sixty acres, at 2*s.* per acre,					16	0 0
Hollow draining, in every year twelve acres, at 2*l.* 10*s.* per acre,					30	0 0
Carting corn to market,					33	10 0
Thrashing corn—200 loads of wheat at 2*s.* 6*d.*			L.25	0 0		
Ditto,	200 quarters of barley ——		25	0 0		
Ditto,	75 —— oats at 1*s.* 6*d.*		6	0 0		
Ditto,	100 loads of 5 bushels, peas,		7	10 0		
					63	10 0
Contingent expense of labour, &c.					25	0 0
					L.1325	0 0

'*Produce arising from the said Farm of Two Hundred and Forty Acres, conducted according to the System, and at the Expense before explained; Quantity of Corn taken at an Average of Years; Prices taken at the present Year,* 1809.

	L.	s.	D.
40 acres sown with wheat, at twenty-five bushels per acre, 11*s.* per bushel,	550	0	0
40 acres sown with barley, at forty bushels per acre, 5*s.* 6*d.* per ditto,	440	0	0
25 acres sown with peas, at twenty bushels per acre, at 7*s.* per ditto,	200	0	0
25 acres sown with oats, at twenty-four bushels per acre, at 4*s.* per ditto,	120	0	0
25 acres of clover, profit arising from the keep of eighty ewes for one year, twenty-five acres of clover allotted to them,	80	0	0
5 acres of clover, mown and converted into hay, at 7*l.* per acre,	35	0	0
Straw from one hundred and thirty acres of land, valued at 20*s.* per acre,	130	0	0
N. B. In the original, these articles are erroneously stated to be 1610*l.*	L.1555	0	0
Amount of expenses,	1325	0	0
	L. 230	0	0

Profit one year,	L.230	0	0		
For six years,	6				
	L.1380	0	0	profit in six years.	
Profit one year on the new system,	L.1117	0	0	Profit on the old system for six years,	L.1380 0 0
	6			Balance in favour of the new system,	5322 0 0
For six years,	L.6702	0	0		L.6702 0 0

'*Disadvantages*

'*Disadvantages of the Old System.*

'1. A plurality of ploughings, which expose the land to be impoverished by a summer sun;

'2. The unnecessary expenses of these ploughings, as far as they relate to labour;

'3. The wear and tear of horses, ploughs, harness, &c.;

'4. The rent and taxes of one year without return;

'5. The inefficiency of summer ploughing to destroy weeds propagated by seed, twitch excepted;

'6. The deprivation of turnips to the amount of thirty acres;

'7. The little stock they are enabled to keep;

'8. The deficiency of manure arising therefrom, and the impoverished state to which that little is reduced, by bad management;

'9. The expense they are subject to, in order to supply this deficiency;

'10. The deficiency in the crops of oats, peas, and beans, which lateness of spring ploughing occasions;

'11. The abundance of annual weeds they raise within the influence of the air to vegetate, and the impossibility of cleaning those crops.'

Speaking of his farm, Mr Greg describes it in the following accurate manner.

'The land I occupy is a very tenacious clay, in some places mixed with calcareous earth: this naturally causes it to bind at top after heavy rain. It is only troubled with surface water; and from the length of time the county of Herts has been in cultivation under very bad tillage, the soil is impregnated with weeds of every description. If you dig a pasture which has remained undisturbed for centuries, almost every variety of weed will immediately appear. My object was therefore (it being almost hopeless to subdue them) to prevent their injuring the crops. To meet the general principle upon which I set out, I began to plough my land as soon in the autumn as the wheat is sown, commencing with that which is the wettest. But previous to that, I mark it out by a very simple instrument, no more than a beam of the length of five feet and a half, with a peg at each end which fixes upon a drill carriage: that operation is followed by a plough, which ploughs a bout in each furrow, to the depth of four inches. The marking is performed by a man, a boy, and a horse, at the rate of ten acres per day.

'The bout is ploughed by a man, a boy, and two horses, at the rate of five acres per day. This work is performed by the man who sows the land; for upon the accuracy of this work, the facility and success of every subsequent operation depend. The size of the lands being thus laid out, the most ignorant ploughman can complete the work. The ploughing is performed by a Suffolk swing plough, with a cast iron breast, and wrought iron share, upon a construction to form a perfect trench of seven inches deep, and eight wide. This requires four bouts to complete a land of five feet and a half. Thus water is prevented from remaining upon the land intended to be cropped; but will be drawn into the ten inch furrow to give rapidity

ty to its progress through, and off the beds. The outside bout of each land is ploughed two inches deeper, and from thence the water runs into cross furrows, which are dug with a spade still deeper, to give facility to the water to run off, and drain the bed.

'In ploughing this land in the autumn, or before Christmas, there is obtained, by the influence of the frost during the winter, a perfect friability in tilth to the depth of the ploughing; and by the soundness of the ploughing, the surface water is as completely got rid off, as by under draining; which is usually performed at an expense of 3*l.* per acre, before the heavy lands in my district can be rendered productive. Having thus produced friability by the aid of frost, and released the land from tenacity at bottom by taking off the water, it is in the spring in a state for sowing, whenever favourable weather arrives. I will now take up the land in the spring, when I begin to sow beans. I flatten the lands which lay very round in the winter, and loosen them at bottom from the under stratum. I have an instrument of great power, called a *scarifier*, for this purpose. It is drawn by four horses, and completely prepares the land for the seed at each bout. This is not the only advantage of it; for it again disturbs and lacerates the top-rooted weeds, which are reversed by the plough in the winter, and does not in its operations raise any seeds within the influence of the atmosphere to vegetate amongst the spring crop: the harrowing before and after the drill, having in a great degree destroyed the effect of such seeds as the plough turned up to the surface in the winter.' p. 10—12.

Again, Mr Greg says,

'The course of cropping I follow, is derived from information received from many very intelligent friends; but for the knowledge which enabled me to perfect the system, I am wholly indebted to Mr Coke. The introduction of two years' clover-layer enables me to complete a system, for the management of a heavy land farm, which renders it self-subsisting; and without such independence, it must have remained imperfect.

'The farm I at present occupy consists of two hundred and forty acres of arable land, principally a tenacious clay: this I divide into six parts, allotting, as nearly as possible,

40 acres for Turnips.
40 ——— Barley or oats, sown with seeds for two years.
80 ——— Grass.
20 ——— Pease, } on the layers.
20 ——— Beans, }
40 ——— Wheat, on the bean and pea stubble.

240

'As soon as harvest is completed, I haulm the wheat stubbles; mark out the land; and plough a bout: then dung, to the amount of ten loads per acre, is spread, keeping it out of the furrow. It is afterwards ploughed in, and three bushels of winter tares, with one bushel and a half of winter barley sown. I am very certain this plan of sowing tares to precede turnips, may be carried to the ex-

it

tent of one half the land so destined, and in a common season not interfere with the turnip crop; particularly if you sow turnips, as you cut the tares, upon a moist furrow. I must here lament that the qualities of winter barley are not sufficiently understood: used as a green crop with tares, it corrects their purgative tendency, and, as a crop to stand for corn, may be fed off many times, to the great aid of those farmers who keep ewe-flocks; it produces in the spring abundance of food, and will correct a disposition to scour, when the flocks have been removed from the tops of turnips. I have fed it as late as May day: Mr Reeve of Wighton, Norfolk, last year fed his ten days later, and afterwards had a very great crop of corn.

'The tare sowing being finished, I begin to prepare the bean and pea stubble for wheat, being convinced that sowing very early is the best security against the injury of blights. Last year my sheep were feeding upon the wheat, when my neighbour was only sowing it. The straw of both was blighted; but the advanced state of mine to maturity, secured the grain from injury, while that of my neighbour was of very little value.

'In heavy lands it is very difficult to prepare the bean and pea stubbles for wheat, at so early a period as I could wish to sow them; particularly so, last autumn. The labour they required was so great, from the plough, roll, and harrow, as to induce me to try if the scarifier would raise a depth of mould sufficient to cover the seeds. It performed the operation well; and should the part so managed, look as well at harvest as at present, I shall continue to use the scarifier instead of the plough; by which means I can sow in the season forty acres of wheat in a very few days, regardless of weather, and at a sixth part of the expense.

'Having made various experiments to ascertain the best distance to drill wheat, I am satisfied that from eight to nine inches will give a better crop, and leave a sufficient space to perform all the hoeing which is safe to practise upon it. The five feet lands therefore contain seven rows, at five inches interval. It may strike the Board, that a considerable space is left by the furrow in an unprofitable state: but when it is considered, how essential it is to keep wheat dry during the winter, they will be convinced that the supposed waste is indispensably necessary.

'Having sown the wheat, and provided tares for soiling the horses in the spring, I begin to plough and dung the remainder of the land intended for turnips: also plough for beans and peas. It is desirable this should be done before Christmas. As soon as the season turns, I first scarify the land which was lea, and intended for beans and peas; and, as soon as growing weather commences, drill the beans at fifteen inches interval, for the convenience of horse-hoeing. The peas are next drilled; but these are at twelve inches interval: as these, by falling over, preclude the possibility of hoeing them more than twice, it is therefore necessary to consider them a smothering and sheltering crop. I have this year sown three double rows, and four single rows of both beans and peas upon each land, which leave the same interval of fifteen inches for hoeing. The result of this experiment

iment I shall have the honour of laying before the Board at a future eriod.

'As the ground is cleared of turnips, it is ploughed into lands. n the spring, the barley is drilled at intervals of eight inches, not eaving any space for furrow; and the clover, rye-grass and trefoil own up, and then across the lands: the rye-grass in the same way. Horse-hoeing not being practicable, the whole land of course is sown, which gives eight rows on each land: the crop is superior to those of my neighbours, sown upon fallow, and the grass regular and uxuriant.

'As soon in May as the weather permits, and the sun is sufficient-y powerful to kill weeds, I set the scarifier to work, succeeded by a strong harrow. Having by these operations obtained cleanliness, I use the first favourable weather to sow Swedish turnips in twelve-inch rows, that is, five rows on land. Of this work, the land being prepared, I can perform, with two drills and a relay of horses, four-teen acres a day. If my plants should prove deficient, I harrow white turnips amongst them; and if they fail entirely, drill an entire crop of white turnips: and should *these* fail, I sow cole-seed. This resowing is performed with great despatch and facility by the scari-fier and drill.

'There are difficulties in feeding off turnips on heavy land; but by a little attention they may be removed: first, by having leas contiguous to the turnips for the sheep to retire upon after feeding, or by drawing the best or half of the turnips, and feeding the sheep in a well littered yard, giving them a bait of clover-chaff night and morning. For carting them off, I remove the shafts, and substitute a pole; the horses by this expedient walk in the furrows. This win-ter I kept five hundred and fifty sheep in the yard: they did very well, and produced a considerable quantity of dung. The sheep feed off the turnips along the land, and every fold course they finish is ploughed. By this means, the solidity which is produced by the treading of the sheep, is restored to tenderness by the subsequent frosts. Even in March there are frosts to render friable the shallow ploughing required for barley; in light lands the scarifier is prefer-able to the plough.

'The turnip crops vary as on light lands. In heavy cold soils the plant does not vegetate so quickly; and, being longer in an in-fant state, the success is to a degree more precarious. But the ad-vantages I derive from ploughing the dung in, without its ever hav-ing been exhausted by being turned over, and thus impregnating the land with its volatile and most active parts, &c. and having the land ready to sow whenever growing weather arrives, place my crops un-der very favourable circumstances.' p. 13.—15.

With regard to the management of grass leas, Mr Greg gives a precise description. He says,

'The artificial grass leas I could wish to conduct upon a system, viz. of giving half to the sheep early in the year, and mowing the other half, and *vice versa*: what they have the first of, I mow the

second; and what is mown the first, they have the second. All soils will not retain clover the second year, therefore the management in this way is deprived of certainty. Where the sheep feed, there they lye enclosed at night in a spacious fold; so that my land has ten to twelve loads of dung-dressing, and two thirds of tail-dressing by sheep every six years: this, added to the other management of my dung, and hoeing, keeps it in a state of health, sufficient for every purpose, without the purchase of manure. I should not here take notice of the number and management of the beasts, (as these apply to the grass lands), but the manure being applicable to the farm, I think it necessary to mention that I winter from forty to fifty head, all of which are tied up in sheds during the winter, and racked with straw, having a bait night and morning of chaff, composed of hay and straw: the quantity of this is regulated by the state of gestation of the cow, or the desire of preparing a proportion of the dry stock for early and progressive beef. I am convinced the saving in fodder is one third, besides the protection from injury afforded to the timid. By cutting the meat, you become the judge of what they shall eat; and by keeping them dry, quiet, and warm, you promote health and condition to all, without the waste attendant on promiscuous feeding. Being confident that frequent exposure and disturbance injure the quality of the dung as well as of the land, I strictly govern my farm upon that conviction. Every three weeks, when the dung begins to heat, the sheds are cleared out, and their contents deposited contiguous to the growing crops of wheat, to the stubble of which land it is devoted. Round it there is a trench, with cess-pools to receive the oozings, which are returned upon the heap.' p. 16.

The syſtem of management, with the accounts of expenſe, and amount of produce, are next detailed. Theſe are given with conſiderable preciſion; only we muſt remark that, from what is ſtated, there does not appear to be any property-tax collected in Hertfordſhire.

'*System of Management, and Expense of cultivating 240 Acres of heavy Land in Herts, according to the Plan pursued by Mr Greg.*

	L.	s.	d.
Rent	240	0	0
Tithe	72	0	0
Poors' rate	60	0	0
Highway duty	6	0	0
Ploughing one hundred and sixty acres of land once, at 17s. 6d. per acre	140	0	0
Carting ten loads of dung per acre on forty acres, with loading and spreading at 25s. per acre	50	0	0
Scarifying eighty acres twice, at 4s. per acre	16	12	0
Harrowing and sowing one hundred and twenty acres, at 2s. 6d. per acre	15	0	0
Carry over	L. 599	12	0

Brought over	L. 599	12	0
hoeing and hand-weeding forty acres of wheat,			
er aere - - - - -	6	0	0
itto ditto peas and beans twice, at 4s.	8	0	0
ʒ of hurdles, and other labour for the farm for one			
, not included in the specific charge -	10	0	0
gent expenses incurred by employing labourers			
ng the same period - - -	25	0	0
:rd and his boy for one year -	40	0	0
ʒ, making, carting and stacking forty acres, first			
second crop of clover, at 25s. per acre -	50	0	0
ʒ forty acres of turnips, at 12s. per acre -	24	0	0
ʒ corn to market - - -	33	0	0
or forty acres of wheat, at 22s. (two bushels per			
) - - - -	44	0	0
itto barley, at three bushels per acre -	30	0	0
or twenty acres of beans, at three bushels per acre,			
per bushel - - -	21	0	0
Ditto peas ditto 8s. per do.	24	0	0
). of turnip seed, at 2s. per lib. - -	10	0	0
). red clover seed, at 5*l.* per cwt. -	20	0	0
hels of rye grass, at 4s. per bushel - -	4	0	0
clover and trefoil, valued at - -	20	0	0
st expenses - - -	120	0	0
g fifty-five acres, at 2*l.* per acre - -	110	0	0
d, and sowing five acres of tares and winter bar-			
at 3*l.* 3s. - - -	15	15	0
loads of clover hay for sheep at 5*l.* -	50	0	0
ı of sheep on pasture in bad weather, say twenty-			
score, at 3s. per score for ten weeks -	37	10	0
ıshing two hundred loads of wheat, at 2s. 6d. L. 25 0 0			
two hundred quarters of barley, at 2s. 6d. 25 0 0			
eighty-eight quarters of beans, at 1s. 6d. 6 12 0			
ads of peas, at 1s. 6d. - - 9 0 0			
	65	12	0
	L. 1367	9	0

oduce arising from the Farm of 240 *Acres, conducted according to the System pursued by Mr Greg. Quantity of Corn taken at an average of Years. Prices taken at the present Year.*

	L.	S.	D.
:s of wheat, at twenty-five bushels per acre, 1000			
ıels, at 11s. - - - -	550	0	0
:s of barley, at forty bushels per acre, 1600 bu-			
;, at 5s. 6d. - - - -	440	0	0
:s of beans, at thirty-five bushels per acre, 700			
ıels, at 7s. - - -	245	0	0
:s of peas, at thirty bushels per acre, 600 bushels,			
;. - - - -	240	0	0

 Carry over L. 1475 0 0

				Brought over	L.1475	0 0
40 acres of clover, twice cut, at two tons per acre, 9*l.* per acre					360	0 0
Straw off one hundred and twenty acres of land					120	0 0
Produce of five hundred sheep from Michaelmas to Michaelmas					500	0 0
5 acres of tares for soiling horses					30	0 0
					L. 2485	0 0

New System.

One year's profit	L. 1117	11	0	
			6	
Six years	L. 6705	6	0	

Old System.

One year's profit	L. 230	0	0	
			6	
Six years	L. 1380	0	0	

New system	L.1117	0	0	Old system	L. 1380	0 0
			6	Bal. in favour of new system	5322	0 0
	L. 6702	0	0		L. 6702	0 0

Though we highly approve of the deviation, or rather complete departure, made by Mr Greg from the antient ſyſtem of Hertfordſhire, yet we are not ſure whether he might not have introduced a much better ſyſtem than the one adopted, for land ſuch as he deſcribes to be in his poſſeſſion. Turnips are not to be depended upon, on clay ſoils; and if a failure is met with in the firſt inſtance, his ſyſtem is completely overturned. It may be ſaid, that a *sticked* crop of turnips always make a good fallow. This we allow; but then, what is to come of the ſheep upon which branch of ſtock no leſs than 500l. profit depends? We are almoſt ſure that the eight-courſe ſhift we have pointed out, would yield a produce of greater value than the one he has adopted; whilſt, in our humble opinion, it is better calculated for ſuch ſoil as he poſſeſſes.

We refrain from making any obſervations upon the radical defects of Mr Greg's ſyſtem, becauſe they muſt be obvious to every one practically acquainted with the culture of clay ſoils. In one word, it may be ſtated, that if the Board of Agriculture ſhall countenance the practice of ſummer-fallow upon wet and heavy ſoils that require to be cleaned, and can only be cleaned during the ſummer months, more miſchief may thereby be done to Britiſh huſbandry, than can at preſent be recogniſed and aſcer-

N.

BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

THOUGH the summer quarter could not, on the whole, be viewed as unfavourable to rural operations, yet the weather was often adverse and unfriendly to the growth of the several crops. The month of June opened under circumstances singularly adverse, both frost and snow having for some days prevailed over the greatest part of the island. From these enemies to vegetation the winter wheats received a blow, which has not, in numerous instances, been overcome. The clovers also suffered materially at that period; and land destined for turnip was thrown quite back in the working by the rains which immediately followed.

July, however, furnished more genial weather, which, to a certain extent, remedied the evils of the preceding month. From our accounts, wheat, in general, may be estimated rather below than above an average crop; though it is dreaded that the dampness of the weather, during the blooming process, has in several respects lessened its productive powers. Besides, in many districts, yellow gum has appeared on the ears; whilst, in others, the stalk is blasted, and, of course, incapable of conveying further nourishment to the grain. Oats are generally considered by our correspondents as a full crop: so are Peas and Beans. Barley again is reported to be good on barley soils, but miserably bad on those of a different description.

As for the grain markets, prices have rather advanced through summer, notwithstanding of a considerable importation of wheat from America and France, and of oats from Ireland and Holland. From full information concerning last year's crop, we were always sure that a rise would occur through the summer quarter; therefore, the steadiness of markets, hitherto, must be entirely attributed to the extent of foreign importation. With regard to the markets for cattle and sheep, a steady and an increased demand has prevailed for several months, to the great benefit of the breeding districts, who were previously in a languishing and unthriving state. The advance, however, has been greater upon cattle than upon sheep. The first article, it is believed, has risen nearly thirty *per cent.*, whereas the rise on the other cannot be calculated at more than fifteen *per cent.* Cattle are now become very scarce in many breeding districts.

We have not heard of any inquiries under the authority of Government to ascertain the hardships of the tenantry under the present administration of the Property-tax; but it is not doubted that such will soon be made, though very probably not in the most efficient and effectual manner. To refer the grievances of the farmer to the gentlemen of the tax-office, would be doing nothing to the purpose; for, from them, redress need not be looked for. We do

not say that these gentlemen are to be the agents of inquiry, though such a report has reached us; but we certainly may affirm, that they would be the worst agents that could possibly be employed. We speak our mind with freedom; and earnestly implore that, if the subject is to be investigated, the investigation may be carried on by people who are neither biassed nor prejudiced. In any other way inquiry would be mocking the complainers; and, without procuring a single benefit, might serve to lull them asleep, till their grievances were either forgotten, or considered as irremediable. For a new view of the Property-tax act we refer our readers to the petition from the farmers of Dumbartonshire to the Commissioners there, wherein the subject is most ingeniously investigated.

No petition from Scotland was presented to Parliament concerning the Property-tax, except the one from the farmers of the county of Haddington, the others being kept up till it was seen whether relief could be obtained in a voluntary manner. We have always thought and said, that as the rule of assessment was a very convenient one, it would not be relaxed or altered, unless a very general appearance was made in behalf of the tenantry—an appearance, far exceeding any thing hitherto displayed on their side. The Haddington petition was presented by Lord Binning, a young nobleman of great expectations, and well qualified by nature for entering into the details of public business. This noble personage is lately appointed to a seat at the India Board—a place admirably calculated for the display of his abilities, though insufficient, it is to be hoped, for engrossing the whole of his attention, or preventing him from attending to the agricultural and commercial interests of the country, in the way hitherto manifested.

In our last Number, the endeavours of the Dalkeith Farming Society to procure a complete reaping machine, were noticed with applause; and the subject is resumed, in order that the public may be enabled to entertain a just sense of the obligations due to that Society. At this time we cannot do better than transcribe the letter politely sent us by the secretary of the Society, after a report was made by the committee specially appointed to examine the several models submitted to their consideration.

'Sir, In compliance with your request (communicated by Mr James Nubbertson), I am desired by the Dalkeith Monthly Farming Club, to send you a short account of the manner in which the competition for the premium, offered by them for the best model of a machine for reaping corn, was conducted.—You will recollect, that, at the June meeting, the committee ordered *four* to be retained for further consideration; viz. those invented by Messrs Alexander Scott, Orniston; Charles Umpherston, Lasswade; Loanhead; Thomas Wilson, Dalkeith; and William Cartlane, Dalkeith.—The same committee met on Thursday last; when, after an attentive examination, and having heard them minutely described by their respective inventors,

ntors, they adjudged the premium of twenty guineas to Mr Scott. The chairman of the committee having reported their decision to e Club, it was resolved, that orders should be given to have a comete machine constructed from Mr Scott's model, at the expense of the ciety, and that Mr Scott should be requested to superintend the exeition of the work, which he cheerfully agreed to: he, however, wishl it to be understood, that it could not be finished in time for having tried this harvest. The expense, he said, would probably not exceed *l.*—In consequence of a recommendation from the committee, the eeting likewise resolved, that complete machines should be construct. by Messrs Umpherston and Wilson, from their models, at the exnse of the Society; which they undertook to perform,—the former r 25*l.*, and the latter for a sum not exceeding 20*l.*—From the terms of e offer held out in the advertisement from the Club, the premium three hundred guineas can only be claimed by Mr Scott; to whom e twenty guineas have been adjudged: It therefore became a quesn, from what source any remuneration could be given to Messrs mpherston or Wilson, in the event of their machines being found, on trial, to give satisfaction.—After a long conversation, it was reed, that if either Mr Umpherston's or Mr Wilson's machine all be found to be efficient, and preferable to Mr Scott's, a m shall be raised by voluntary contribution amongst the proietors and farmers of this and the adjoining counties, as a reard for their ingenuity.—It having been represented, that Mr Carrae had incurred a very considerable expense in constructing s model (it being upon a large scale, and entirely of malleable n), the meeting agreed to allow him 10*l.* by way of indemnifican. I am, &c. WILLIAM DOUGLAS, *Sec.*'

It becomes us to express the sense entertained of the obligation nferred by the Society, in thus handsomely communicating to the result of their deliberations respecting that important imple:nt, the reaping machine, which, under their auspices, we trust, ll be brought to something like perfection, and rendered of inestiible benefit to the public. But the liberal sentiments which have imated the members of the Society on this occasion, cannot be ssed over in silence; because they have shown themselves above ery narrow or selfish impression, and resolutely disposed to admiter the whole business in a way highly commendable and praiserthy. They have not confined themselves to the strict letter of ir offers; but handsomely stepped beyond them, and given assistce to other ingenious mechanics besides the person considered to ve prepared the best model: and in ordering complete machines to constructed upon the principles of other models than the one which tained the premium, the Society must be considered as acting in a st exemplary and meritorious manner. To these who remember invention of the thrashing machine, what a striking contrast will pear betwixt the proceedings of the Dalkeith Farming Society and t of the honourable members who sat at the Board of Trustees

for Improvements, &c. in 1789, when the merits of that noble implement were taken into consideration! Influenced by prejudice, or some unaccountable motive, the honourable members alluded to bestowed a small premium (twenty guineas, we believe) on a Mr Cotterel, who had constructed a kind of toy for thrashing corn; and passed over the efficient implement devised by that worthy and ingenious mechanic, Mr Meikle, without noticing it in any other way than giving Mr Meikle 15*l.* for the model he had exhibited, though no other machine was ever invented capable of executing the arduous task of separating corn from the straw in a complete and perfect manner. Whatever moralists may say, the world is certainly turning wiser; and, were doubts entertained on that point, the contrast thus offered, would furnish decisive proof of the increase of human wisdom.

Before finishing the article, it may be stated, that should a public subscription be necessary in aid of the views of the Dalkeith Society, the Conductor of this Work will not only come forward in support of it, in his private capacity, but also pledges himself, in name of a numerous body of friends, to render every assistance in their power, that can be reasonably expected.

SCOTLAND.

Wigtonshire Quarterly Report.

The first half of June was unusually cold, rainy and tempestous. Snow fell upon the high grounds, and hail and frost were pretty universal. This, after a dry cold May, was very unpromising; and moist low grounds particularly suffered. The after part of June, however, and the early part of July, being fine genial weather, compensated, in a great measure, for the inclemency of the former part of the quarter. This was succeeded by a pretty severe drought, which much injured the crops on thin dry grounds; but a charming shower has fallen upon the evening of the 27th instant, from which very considerable relief may be expected. Artificial hay crops are generally light, but well saved. Meadow, or bog hay, is in hands at present. All sorts of crops, where exposed, but especially potatoes, were scorched exceedingly by a violent gale of northerly wind, which blew with little intermission from the 16th to the 19th; and the warm dry weather for eight days afterwards, added greatly to the injury. Notwithstanding these circumstances, appearances are not unfavourable; and crops have a fair chance of being productive. For black cattle of all ages, the demand has been great, and prices abundantly high. From the very spirited and laudable interference of a respectable part of the farming interest in Scotland, and the promises of the Chancellor of the Exchequer, it is understood that there is a fair chance of redress being obtained in next session of Parliament from the hardships of the Property-tax as at present levied. It is presumed that these favourable appearances induce the tenantry of these counties who have not yet petitioned, to remain inactive for a time, under the idea of their [illegible] may be unnecessary; but if they are disappointed

pointed in this expectation, no doubt need be entertained that every county in Scotland will come forward in order to obtain constitutional redress, from one of the most unequal and oppressive burdens that ever was imposed upon any class of subjects in a free country; and for the able discussions upon which, the country at large are under the highest obligations to the Conductor of the Farmer's Magazine.——28*th July.*

Banffshire Quarterly Report.

RURAL matters during this quarter may be reported as more favourable for the farmer than for several years past. The cattle trade, which commenced at an earlier period of the season than usual, has continued uncommonly brisk; and prices are now so much advanced, as to exceed those of the last year from 30 to 35 *per cent.* It is now thought that the country is getting thin of stock, as appears from some of the late fairs being so little crowded. Cattle on hand are in high condition; and the pastures have all along been uncommonly abundant. Although the weather, at different times, has been rather upon extremes, and several severe blasts have been experienced; yet, upon the whole, the season has been favourable to vegetation. Oats in general appear to be unusually luxuriant, and so are some of the early barleys; but, where this grain was late sown, and especially after turnip, it appears very deficient. As this article, however, only occupies a small breadth of ground, the general produce will be little diminished by its failure. What wheat we have is not amiss; and if disease keeps off, which is not apparent as yet, it may give in a fair return. If the weather should continue favourable, the crop, upon the whole, may be expected to exceed an average; but as so much depends upon this, a conjecture can scarcely be hazarded at this time in such a climate as Banffshire. Harvest is not expected to be early. The hay crop does not come up to what was expected early in the season; but may be noted as little short of an average: the greater part remains in the field; and if the moist hazy weather continues, which prevails at present, it must be materially injured.—The turnip failure, so much complained of in other districts, does not appear to be prevalent here. With the exception of some that were sown about the 10th June, when the land was too wet, and afterwards became crusted, they in general look healthy, and can scarcely be overtaken with the hoe. It is the practice with many farmers, in this district, to raise their own seed, and a failure from bad seed is little known. The yellow kind has been more sown this season than ever.——28*th July.*

Morayshire Quarterly Report.

ALTHOUGH no given season can ever apply equally well to the soils in this county, which vary from the lightest sands to the richest clays; yet, on the whole, the present has been favourable; and, where the ground was properly tilled, which is by no means universally the case, our crops of all descriptions (barring wheat on the clays) look well, and will now be greatly mended by the rains, which have

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set moderately in.—Turnips have vegetated uncommonly well, and the fly seems to have made no impression upon them. Although they are not so forward as in some former seasons, it may be presumed that temperate weather will now insure a fine crop.—Hay as to quantity is only middling; but has been saved in the best possible condition. Potatoes promise well; and although hitherto that root has not been raised in quantities much beyond family consumpt, the farmers have begun to use them steamed for horses. The Morayshire Farming Society have opened a subscription, which already amounts to nearly 600*l.*, to be lent on proper security to a person versant in curing pork for export; believing that the soils of this county are peculiarly adapted for raising potatoes, and that ample remuneration will be obtained by consuming them on the farm, when steamed, in the rearing and feeding of swine; while at same time much valuable manure will be obtained, and the complaint of that root not making proper returns in this respect be done away. Cattle of all descriptions were never more saleable, and prices are high; the country seems absolutely drained, for the present, of decent stock, by the demand for last two months. Grain continues at stationary prices. Barley 32s. to 35s. per 4 firlots; oats 32s. to 34s. per 5 firlots, nearly equal to a Winchester quarter; wheat 40s. to 41s. per bushel, about 7½ *per cent.* better than 4 bushels; and there is a sufficiency of all for home consumpt until harvest.——29*th July.*

Aberdeenshire Quarterly Report.

During the last quarter, the weather has, on the whole, been moist and rainy; more so than for several years bypast. From this cause turnips were sown under great disadvantage; are still backward in growth for the season; and in many places scarcely promise a crop to pay the expense of cultivation. Potatoes are getting forward in growth; but are not quite so far advanced as usual at this period. New potatoes are selling at 2s. per peck of 8 pints, at Aberdeen. Hay is a full crop, generally far above an average, and fortunately came from the scythe during a week or two of dry weather, which allowed it to be got into tramp coles (small stacks, generally of about 100 stone each), in good order. This was of great consequence, as the weather has again turned rainy. Pasture grass was never seen in greater plenty or of finer quality. Wheat and barley are thin on the ground, and do not promise the usual return. Oats are very full and luxuriant; they promise plenty of grain and abundance of straw: but as every kind of crop is a week or two later than usual, much will depend on the weather in the month of August.

There is no difference in the price of grain since the date of last report. The markets are regularly supplied; and there remains a sufficiency to meet the demand until the new crop is harvested. Cattle of every description have risen at least 25 *per cent.* during the last three months. This rapid rise may be partly attributed to scarcity in the article of winter provender for two years past, which reduced the stocks very greatly in all the breeding counties, and partly to

ıe great demand from the South. Sheep have also risen in valuè; not in the same proportion as cattle, the advance on them being from 12 to 15 *per cent.* Good horses maintain very high prices, are rather a scarce article. There is no variation in the price of ıır. During the quarter, the market at Aberdeen has been lılly supplied with excellent beef and mutton at from 5d. to 7d. pound.——30*th July.*

Letter from a Farmer near Langholm, 31st July.

THE state of the weather, since my last, has varied considerably. m the 24th of May until the middle of June we had a succession old rainy days; during which period, neither the grass nor corn ıs made the usual advance expected at that period of the season. m the 13th of last month till within these four or five days, we rienced an almost uninterrupted course of dry warm wea-. The soil being fully saturated with moisture at the period n the drought commenced, the effect produced soon became vi- on the light gravelly or clay soils; and the crops are, consequent- less bulky and luxuriant than what the early part of the season promised. In some instances, from the extreme drought, they assumed a rather unhealthy aspect, or the appearance of pre- ure ripeness. Oats are generally short of straw. Barley and have a promising appearance. Turnips have almost universally d through this district. Those early sown suffered severely from ravages of the fly; and, from the long continued drought, such ere sown at a later period have been prevented from vegetating. everal instances the seed has proved of a bad quality. Very few s afford what may be called a decent average crop. Potatoes, ıgh not exhibiting such a full growth of stem as usual, have, ever, a healthy and thriving look.

In the upper part of this district both the season and the state of markets have been highly favourable to the interests of the stock ıer. The dry warm weather which has prevailed during the lat- ıart of summer, has tended greatly to promote the health, as well ıe improvement and thriving condition of the flocks upon the rland farms. Rough sheep have been in great demand this sea- being bought up with eagerness and at advanced prices. At annual wool fair at Langholm, on the 15th instant, there was a demand for that article, with an advance of price of from six ine shillings per stone higher than last season. The average might be about a guinea and a half per stone of sixteen pounds. our lamb fair, on Wednesday last, there was a good show of ıs. The sale was rather slow, owing to the very high prices ask- y the sellers; and the demand was not so great as had been ex- ed; but good prices were given, making an advance of from two ree shillings a head above those of last year. Our victual mar- which are mostly supplied from the neighbouring districts, have inued pretty steady during summer; and the present appearance ıe crops does not seem to warrant any material alteration.'

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Dumbartonshire Quarterly Report.

SINCE last report the weather has been good. The transitions from heat to cold were sometimes sudden: but we have had moderate and well-timed rains, which kept every thing in a progressive state of improvement.—Wheat is still thin on the ground, though much improved. Oats are remarked to be more vigorous and promising than usual. Beer thin and light. Potatoes generally looking well, though they are backward in some parts. Hay was thought light and thin when growing, but it has been all saved in the very best order, which will, perhaps, make up the deficiency. One general remark may be made;—none of the grains are lodged, and, if the weather continues favourable, there is every appearance of a fair average crop.

A petition to the House of Commons against the present mode of assessing the Property-tax upon farmers, was prepared in this county, and subscribed by a considerable number. Parliament was adjourned, however, before the subscriptions were closed; but it will still be presented next session, unless relief is obtained before that time.

Your correspondent in Upper Annandale mentions a steaming apparatus that has been used in that district with great success, which is simple, and executes the work almost to any extent wanted. This is a subject of great importance; and it would be obliging several farmers here, as well as generally useful, if, in next Number, he would give us such a description, as that similar ones might be erected from it.

A copy of the petition from the farmers of this county to the commissioners of appeal under the Property-tax, is transmitted with this report, which may be used in the next Number of your Magazine.—31. *July.*

Unto the Honourable, the Commissioners of Appeal for the County of Dumbarton, under the Property-Tax Act,

The PETITION and MEMORIAL of the COMMITTEE appointed by a General Meeting of Farmers in said County, to act on their behalf respecting the said Tax.

Humbly Showeth,—THAT the petitioners understand the commissioners have adopted it as a general rule, in assessing the property-tax within this county, for each of the two years preceding 5th April 1805, to charge the tenant, in all cases where his lease has endured more than seven years, with ten per cent. on the valuation of his farm, under schedule A, and also with five per cent. under schedule B, on the said valuation, over and above the former. For instance, supposing a tenant has a lease of a farm at 200*l.* of yearly rent, which lease has endured above seven years, and that his farm is valued at 400*l.* yearly, such tenant is charged, first with 40*l.*, being ten per cent. on the valuation under schedule A, and also with 20*l.*, being five per cent. thereon under schedule B. No doubt, he retains 20*l.*

20*l.* off the landlord; but still 40*l.* falls upon himself—a sum just double in amount of what falls upon the landlord for that farm.

The petitioners consider this as taxing the tenant twice in respect of the same property, and as not warranted by the act; for by it, as it now stands, no tenant can be charged under schedule A with more than he is entitled to retain out of the landlord's rent; the duty specified in schedule B being the only one laid upon occupiers on their own account, except in the case of a man occupying his own land. Of this opinion they are the more convinced, the longer they consider the act; and they beg leave to state, in this petition, the reasons by which it is supported.

The property-tax act, now in force, 46. Geo. III. cap. 65, begins by reciting the duties leviable under the former act, under different schedules, marked A, B, C, &c.; which former act is in this particular taken as the basis of the present one, the alteration in the amount of duty being regulated by a subsequent clause. These schedules point out the different classes of persons liable to the several duties, and the circumstances in respect of which they are declared to be liable; and therefore, as being the enacting clauses of the act in this particular, deserve the most serious attention. They are as follows.

Schedule A.—For all lands, tenements, hereditaments or heritages, there shall be charged, throughout great Britain, *in respect of the property thereof*, for every twenty shillings of the annual value thereof, the sum of one shilling.

Schedule B, *as applicable to Scotland.*—For all dwellinghouses, lands, tenements or heritages in Scotland, there shall be charged, in respect of the occupation thereof, for every twenty shillings of the annual value thereof, the sum of sixpence.

The other schedules need not be noticed, as they do not respect lands or tenements.

These schedules A and B are therefore the bases, in terms of which the duties are to be laid on. They are the enacting clauses of the act, so far as they go; for the first section, which immediately follows the enumeration of these schedules, fixes the amount of duty to be assessed, and expressly refers to them, without alteration or remark, as pointing out the circumstances in respect of which these several duties are to be assessed. It is needless to quote this long clause here; but, on perusing it, the reference to the schedules, as mentioned above, will be seen at once. The petitioners are therefore entitled to assume, that the schedules A and B, being thus referred to, make part of the enacting clause which lays on the duties in the said act; and therefore they must be resorted to, as affording the only means of solving the present question.

The ſlighteſt peruſal of theſe ſchedules is ſufficient to ſhow the views of the Legiſlature in paſſing this act. Schedule A expreſsly ſtates, that the duties to be aſſeſſed under it, on lands, &c., are to be charged *in respect of the property thereof;* and ſchedule B ſtates as diſtinctly, that

that the duties under it are to be charged *in respect of the occupati of.* The queſtion then is, what is the meaning of theſe two words, ty and occupation, as here uſed? And, on this part of the ſu muſt be remarked, that theſe two words are not to be taken moſt extenſive ſenſe, as uſed in common colloquial diſcourſe; appearing in a moſt important law, muſt be taken in their ſtrict gal meaning, as applied to heritable ſubjects. Thus reſtricted, t property obviouſly marks what is known in law as the *dominii* or fee of heritages, in expreſs contradiſtinction to poſſeſſion or occ which word occupation reſtricted as above, means the perſonal ral poſſeſſion, in expreſs contradiſtinction to the property of ſu jects. Theſe explanations being undeniable, and the two ſchec ing ſo diſtinctly marked and ſeparated from each other, the one ſ ties being impoſed in reſpect of the property only, and the oth ſpect of the occupation only, it ſeems impoſſible, without the outrage on the meaning of words, to intermix them together; clear, that no proprietor, who does not alſo poſſeſs his own pro chargeable with any duty under ſchedule B; and it is equall that no occupier, who is not at ſame time proprietor of the ſub cupied, can, by any twiſting of language, be juſtly charged on account, with any duty under ſchedule A.

Such, then, being the obvious meaning of the enacting cl the act, the petitioners conſider their caſe as fully made out; a to them matter of wonder, how any doubt ſhould exiſt on a clear. They underſtand that a treatiſe has been written explai the act, by certain law officers of the Crown, in which a contrary is maintained, founded on ſome obſcure and doubtful inference from ſubſequent parts of the act. But ſurely it will not be h any ſuch inferences can be ſet up in oppoſition to the enacting c the act. Beſides, the ſpeculative opinion of one or more of officers of the Crown, is not to be taken as the law of the The acts of Parliament themſelves, and theſe alone, are to be to as the only authorities for taxing the ſubject; and inferences ed on doubtful expreſſions, ſhould in every caſe be received with Many examples might be given of the danger of an oppoſite but one only need be mentioned. From the variety and volum ure of acts of Parliament as now framed, it is impoſſible for t ers to ſtudy cloſely every clauſe in every act. This is more man ſtrength or induſtry could accompliſh. Their principal muſt therefore be directed to the enacting clauſes; and the ſu parts being ſuppoſed to be in conformity with, and ſubordinate muſt of courſe be paſſed over with ſlighter attention. The clauſe muſt therefore be held, in every caſe, as the body of t d if, in any caſe, conſtructive inferences, drawn from ſubſequer are adopted, in direct oppoſition to the enacting clauſe, on the ion of the law officers of the Crown, then, it is evident, that of Parliament is degraded into mere empty form and ce [illegible] legiſlators. In this

view, therefore, the preſent queſtion, beſides its importance to the petitioners as individuals, involves in it the more momentous one of the liberties of the country.

As the view taken of the act in the ſaid publication, either has been, or is likely to be adopted, the petitioners muſt crave the indulgence of examining the grounds on which it reſts; and they have not the leaſt doubt of being able to prove, that the ſubſequent clauſes of the act, which are held forth as deciding the caſe, do not prove any thing againſt the petitioners' plea, but are conſiſtent with it in every reſpect; and being ſo, are alſo conſiſtent with ſchedules A and B,—with the whole ſcope and ſpirit of the act, as well as with the common ſenſe and juſtice of the caſe.

Before entering upon the conſideration of theſe clauſes, it will be proper to mention what they muſt prove, in order to ſupport the opinion which is attempted to be founded on them. To ſupport this, they muſt be ſufficiently ſtrong to ſet aſide and alter the enacting clauſes of the act, as contained in ſchedules A and B; and to ſhow, that the word proprietor can be made to mean occupier, and *vice versa*; or, in other words, that property and occupancy are the ſame thing. Now, although the petitioners think that nothing can ſet aſide the enacting clauſes, and twiſt the meaning of plain words in this manner, yet, ſuppoſing for argument's ſake, that any inference or conſtruction could in ſuch a caſe deſerve attention, it will be admitted, that ſuch inferences ſhould be numerous and weighty; and that the words from which they are drawn, muſt not only expreſs clearly the meaning attached to them, but muſt be quite incapable of being explained, in conformity with the enacting clauſes. For, if they can be reaſonably explained in conformity with theſe, it is ſurely contrary to every rule of ſound logic, to adopt any explanation that ſets them at variance. The ſequel will ſhow whether theſe clauſes are of this deſcription or not.

The firſt part of the act that is capable of any conſtruction inconſiſtent with the enacting clauſes of ſchedules A and B, is the general rule No. 1. for eſtimating the annual value of all lands, &c., and which happens to be claſſed under ſchedule A. It is as follows. 'The annual value of lands, tenements, hereditaments or heritages, charged under ſchedule A, ſhall be underſtood to be the rent by the year, at which the ſame are let at rack-rent, if the amount of ſuch rent ſhall have been fixed by agreement, commencing within the period of ſeven years preceding the 5th day of April next, before the time of making the aſſeſſment; but if the ſame are not ſo let at rack-rent, then at the rack-rent at which the ſame are worth to be let by the year; which rule ſhall be conſtrued to extend to all lands, tenements, hereditaments or heritages, capable of actual occupation, of whatever nature, or for whatever purpoſe occupied or enjoyed, and of whatever value, except the properties mentioned in No. 2. and No. 3. of this ſchedule.'

Now, the argument founded on this general rule, is this. The rule, it is ſaid, refers ſolely and excluſively to the duties under ſchedule A; and is therefore nonſenſe, unleſs it is underſtood to bear, that the tenant,

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in certain cafes, is to be charged with duty under ſchedule A, to a greater amount than the ſum he is entitled to ſtop off his rent. But it will be remarked, that if the ſenſe of the rule is ſaved by this explanation, it only changes the place of the difficulty, and does not remove it; for this explanation makes the enacting clauſe of ſchedule A nonſenſe. And this dilemma cannot be avoided, if ſuch explanation is adopted.

The petitioners flatter themſelves, that they can ſolve the difficulty by an explanation more natural in itſelf, and perfectly conſiſtent with the other clauſes of the act. They hold that this rule, No. 1. does not refer, and, when framed, was not meant to refer ſolely and exclusively to the duties under ſchedule A, but was meant to be framed ſo as to be capable of being applied to ſchedule B as well as ſchedule A; and accordingly, on turning to the rules under the head ſchedule B, it will be ſeen, that at the very beginning, this general rule, No. 1., is referred to, as being alſo the general rule to regulate aſſeſſments under ſchedule B. This then is the cauſe; and it is a very reaſonable and ſufficient cauſe for making the rule ſo broad as to apply to both caſes; for if it had not been ſo framed, it would have been obviouſly defective, and the reference to it from ſchedule B would have been abſurd. The rule being thus common to both, is to be applied to ſchedule A, ſo far only as it is obviouſly applicable to that ſchedule, which impoſes a duty in reſpect of the property alone; and is to be applied to ſchedule B, ſo far as it is applicable to that ſchedule, which impoſes a duty in reſpect of the occupation only: and on theſe clear grounds it follows, that no occupier, who is not alſo proprietor, can be charged with one farthing of duty under ſchedule A, except that ſum which he is entitled to ſtop off his landlord.

The wording of this general rule ſhows, that it was meant to be framed as broad and comprehenſive as poſſible; for it is not given like an enacting clauſe; it deſcends into no particulars, but announces, in the form of an abſtract propoſition, 'the annual value of certain ſubjects ſhall be underſtood to be ſo and ſo.' Being common to both, it is plain, that the general rule is ſubordinate to, and reſtricted by, the words of ſchedules A and B, which lay on the duty; and it muſt therefore be interpreted with ſtrict reference to them. 'T is nothing to the purpoſe, to ſay, that becauſe it happens to be placed in the act, amongſt the regulations of ſchedule A, that it muſt therefore be applied, in its whole meaning, to that ſchedule, whether ſuch application is conſiſtent with common ſenſe or not; for, being common to both, it can be applied to each, ſo far only as it is applicable, without deſtroying the enacting clauſes. Its poſition amongſt the regulations of ſchedule A is a mere accidental circumſtance, and might have happened quite otherwiſe. It was natural that the landlord's duty ſhould take precedence of the tenant's; and he one firſt taken up fell naturally to be named ſchedule A; and it was alſo natural that a rule, which was meant to be common to [illegible] ſchedules ſhould be inſerted under the one firſt occurring, referring

ferring back to it from the second, rather than to refer to it from the first, reserving it to be inserted under the second. At the same time, this might have happened; though, if it had, it must have been held strange doctrine, to say, that therefore a landlord was to be charged, on his own account, with both duties, and the tenant for himself, over and above all. Yet this is exactly the same with what is now intended to be done; for, a tenant of another man's ground can no more be called proprietor, than a landlord who has set his land can be called an occupier. Perhaps it might have been better to have made two rules; one of them applicable to schedule A only, and inserted under it; and another applicable to schedule B, and inserted under it. But the framers of the act (for whom the petitioners are not accountable) having judged differently, and preferred one rule, it must be applied with judgment, conform to the other parts of the act, and not at random, so as to set them aside. From the similarity of the subjects described in these two schedules, it was to be expected, that several of the general regulations might apply to both; and accordingly we find, that this general rule No. 1, is not the only rule, which, though inserted only under one, is common to both schedules; for, on looking over the regulations which are classed under schedule B, section 75, No. 9 and 10, there are several rules, which are mentioned to be common to both schedules. Now, as the first rule is common to both schedules, though placed under schedule A, here are rules, which are common to both, though placed under schedule B; so that the rule, No. 1, is not a solitary instance of the kind: and these things show, that the framers of the act did not apprehend any obscurity from this intermixture of rules common to both, because they were all to be regulated and applied, in terms of the schedules A and B, as given at the commencement of the act; which are so very distinct, as to be quite incapable of misconstruction.

This, then, is the petitioners' explanation of the rule No. 1; and they think there is no comparison between it and the one proposed to be adopted. But, although the question were much more doubtful than it is, the leaning should be to the side of lenity; the more especially as the proposed rule assesses occupiers in the enormous rate of 15 *per cent.* on the surplus rent of a farm valued, besides the other duty; and as it is a point conceded by all, that the occupier's duty alone, in almost every case, exceeds the sum that 10 *per cent.* on his real property would amount to. In proof of this, the petitioners may recur to the universal opinion of the country, and particularly, to the resolutions passed at a general meeting of the landholders of this county, where this fact is distinctly stated, and where the rule of the act for ascertaining the profits of farmers, is characterized as unequal and arbitrary. If then the occupier's duty alone is too heavy, surely there is the utmost reason for caution and consideration, before a plan is adopted, by which this rule is rendered so much more severe. But in this case there is no room for doubt; for, when it is considered that the principle proposed to be adopted, sets the

different parts of the act at variance; violates the enacting clauses; reduces the supporters of it to the dilemma of pronouncing the one or the other of the jarring parts to be nonsense, and depends for its existence on the complete perversion of the plainest words; surely it cannot for one moment be put in the scale with one which reconciles the different parts of the act to each other; confirms the enacting clauses, and produces a rule so much more consonant to reason and justice.

The next clause, from which an inference is drawn unfavourable to the construction contended for by the petitioners, is to be found under schedule A, No. 4. article 9th, which 9th article begins as follows. 'The occupier or occupiers of any lands, tenements, hereditaments, or heritages, being respectively tenants of the same, and paying *the said duties*, shall deduct *so much thereof*, as in respect of the rent payable to the landlord or landlords for the time being (all sums allowed by the commissioners being first deducted) as a rate of two shillings for every twenty shillings thereof, would, by a just proportion, amount unto,' &c.

The doubtful words in this clause are, '*the said duties*;' and, on the meaning attached to them the sense of the whole clause depends. It is assumed that these words mean the duties under schedule A only; and if any authority could be shown for this assumption, the construction of them, as proposed, would bear some colour of reason. But the petitioners contend, that this arbitrary construction is not the meaning of the words quoted, but that they evidently mean the duties assessable under both schedules A and B; and that the sentence, according to this explanation, if complete, would stand thus, 'and paying the said duties assessable upon them under schedules A and B;' and this is the only construction of which the clause is susceptible, to render it conformable to the enacting clauses, and the other parts of the act. For, as the occupier is to be assessed, in the first instance, with the duty which is meant to fall ultimately on the landlord, it was absolutely necessary to empower the former to retain the just proportion from the latter; the remaining part of said duties, that is, the duties under schedule B, for which he has no retention, being intended to attach to himself, in respect of his occupation.

Another inference of the same kind, but equally untenable with the rest, is attempted to be drawn from the wording of the rules for assessing the duties under schedule B. The first of these rules, section 75, No. 7, begins as follows. 'The duties last before mentioned,' (that is, evidently, the duties under schedule B) 'shall be charged, *in addition* to the duties to be charged under schedule A,' &c. But it is plain, this clause can bear no meaning unfavourable to the doctrine maintained by the petitioners, from the use of the words *in addition*; for the occupier being chargeable, in the first instance, with the duty for the landlord, which he is empowered afterwards to retain, it was necessary to state, that the duties under schedule B, payable for himself, were to be charged upon him, in addition to the

other

r, because they are both chargeable in respect of the same sub-
; only, the first falls ultimately on the landlord, in respect of the
erty; and the other, which is assessed also on the tenant, in addi-
to the former, falls upon himself, in respect of the occupation.
se words, *in addition*, were also necessary, in order to include the
of a landlord possessing his own ground, to show that he was to
eld liable in both capacities. This point appears so clear, as to
ire no further illustration whatever.

he petitioners have gone over the whole act with attention, and
cannot find one other expression, which is capable of being in-
eted in contradiction to the words of schedules A and B: and
e above detailed are so ambiguous, that they cannot think they
rve one moment's attention. They are quite insufficient to set
e the enacting clauses of the act, or alter the meaning of the
ls there used; and being just as susceptible of an explanation in
ormity, as in contradiction to these, there can be no hesitation,
:h of the two should be adopted.

erhaps it may be objected to the plan contended for by the peti-
ers, that cases may occur, in which the adopting of it would not
re a fair contribution. But to this, it is answered, that very few
s of this kind can occur; though, if they should, the rule of
dule B might be abandoned altogether, and such tenant might
ssessed under schedule D, by which he could be charged with
ull rate of ten *per cent.* on all the profits he actually gains.

May it therefore please the Honourable Commissioners to assess the occupiers of land, under schedule A, to the extent of the sum which they are entitled to retain out of the rent only: and to assess them on their own account with the duties in schedule B only; except in those cases, where it may be thought expedient to charge them under schedule D, on their professional profits.

Letter from Inverness-shire, 31st July.

After the first week of May the weather was favourable to ve-
tion; but on the 28th of that month we had heavy rains, and the
severe frost, which completely stopped the growth of every
, except crops in very favourable and well-sheltered situations.
hay crop, which promised, before the frost, to be an excellent
suffered severely, and turns out to be one third lighter than u-
y known in this district.

Potatoes look as a decent crop, though far inferior to those of
year. Wheat appears to be something like an average; but
ust be remarked, that less of this grain was sown than custom-

Oats are excellent; and barley, where justice was done to the
re, promises well. Indeed, this last grain is the only one that com-
farmers depend upon for paying their rents; being sure of obtain-
ready market, the county not raising any thing like so much as
pply demands. Cattle have lately met with a brisk sale; and
breeders have nearly got their hands clear of the old stock at
s considerably advanced.

'The making and repairing of roads and bridges in the Highlands is going on very rapidly, and communication is now opened almost to every quarter. The traveller, who formerly, with a Highland garron and a pair of creels, could, with difficulty, make his way through the mountain districts, will shortly be enabled to pass, on all hands, with the like comfort as is experienced in the most improved parts of the island. Surely, on these accounts, the public in general, and the people of these districts in particular, are much obliged to the Legislature for the liberal aid furnished to undertakings which so much promote their comfort and convenience.

'The Caledonian Canal is likewise fast advancing, and the locks at Muirtown will this season be completed, in a masterly style, that will do honour to the undertaker. A great part of the cut from the Frith to Lochness is finished; and the sea lock at Clachnaharry is in a forward state. In short, this noble undertaking is going on rapidly; and promises, at a future period, to be of incalculable advantage to the people of this and other Highland districts. I should have mentioned, that the braird of turnips, in many places, was very backward this season, which called for a second sowing in several instances. A number of people suffered from sowing too early last year, the roots having rotted in winter; therefore, to avert that evil, the seed process was not so early executed. The young plants are thinned upon many farms; but nothing with certainty can as yet be stated respecting the goodness or badness of a crop which is of immense benefit to the breeders and feeders of live stock every where.'

Letter from a Gentleman in Perthshire, 31st July.

'I observed, a few days ago, a very fine looking field of wheat, a good deal affected with the *rust*; and was led from curiosity to examine several ears carefully, when my attention was soon attracted by another disease (if I may be allowed to call it so) of a still more fatal tendency. Upon dissecting the ear, I found several grains not more than half formed, and which had never been in what is generally called the state of full blossom, the anthus of the flower being still confined within the husk, and, to all appearance, unable to proceed further. On removing them, I observed the portion of the grain that *was* formed surrounded by a cluster of small worms to the number of 10, 15, and even 20, of a greenish colour, and about one twentieth of an inch in length. In some ears, I found only two or three grains in this state; in others a fourth part of the whole ear; but in every case, a number of the grains were sound and healthy. Whether or not these vermin and the rust are effects of the same cause, I cannot decide; but it would appear there is no immediate connexion between them, for I always found the former in greatest abundance when there was no appearance of the latter. In one case, I found a single worm in a *sound* grain, about one tenth of an inch long, with a black head, the body whitish. Though much larger than any I had before seen, it evidently appeared, when viewed through a glass, to be one of the same species in a more advanced state

state of existence. I have as yet heard no complaints among farmers of these vermin; but there is reason to fear they are not limited to particular spots or situations. The field where I first observed them is exposed to the north: but I found them also in a field completely sheltered from the north, and ten miles distant from the former. In the latter, there was no appearance of rust. If the common opinion be well founded, that rust is the consequence of stormy weather, particularly wind, while the wheat is in blossom, it is evident from what has been stated, that the two diseases do not proceed from the same cause.

'The 17th of June was distinguished here by a violent gale from the north-west, which proved fatal to fruit, flowering shrubs, and the leaves of young ash trees. The wheat, where I have observed the rust prevail, was at that time in blossom; a circumstance that tends to confirm the current opinion as to the cause of that disease.

'I shall not presume to offer any further remarks on the facts I have stated, but should be happy to have the opinion of a more competent judge on the subject.'

Tweeddale Quarterly Report.

THE favourable weather about the middle of May brought a flattering prospect both of grain and grass, and was embraced by many people for sowing of turnips; but that genial period was succeeded by weather decidedly hostile to culture of all kinds, several snowy nights having then occurred, with a succession of rain. Owing to these adverse circumstances, the conclusion of the turnip-seed was long delayed, and a most general failure followed; greater than was ever known since that plant was introduced: and this failure may be attributed, not only to bad weather, but also to the imperfectness of the seed, and to the ravages of the fly. One general remark, however, applies to this county, viz. that every field of turnips, whatever was the nature of the soil, sown before the first of June, has succeeded; whereas, those sown afterwards have generally failed. That esculent, in fact, is the basis of all our crops; and, without it, the husbandry of this county would make a very poor figure.

The grain crops are looking well, barley on clay and thin soils excepted; and, if good weather follow, an average crop may be expected. All grain crops, however, are a fortnight later than last year at this period. Cold weather in April and May injured clover and ryegrass, though the crop of hay is not much amiss. The greater part is in the rick, and put there in the best possible condition.

Cattle and sheep markets have in price exceeded those of last year at least 20 *per cent.* Lambs were apparently scarce, as the demand exceeded the quantity presented for sale. Query, Has the introduction of the Cheviot breed occasioned a scarcity? Whether it may or not, black-faced or forest-lambs and hogs have had a ready market, and at high prices. Wool has sold 25 *per cent.* higher than last year.

At a full meeting of the farmers of this county in April last, it was agreed to petition Parliament for an alteration of the property-

tax as it affects the occupiers of land. From good authority, it is learned, that the most obnoxious clause, the one which enacts a revaluation at the end of seven years, is to be given up; and also that such other ameliorations will be made, as will place the Scotish farmers on something like an equal footing with their brethren in the Southern part of the island.——*July* 31*st.*

Ross-shire Quarterly Report.

With the exception of two or three severe gusts of wind, we have had an exceedingly favourable season in this county. The injurious effects of the frost which took place in the end of May, appeared soon to be got the better of by a succession of moist genial weather for the first fifteen days of June. On the 16th and 17th of that month, we had two stormy days, with showers from the north-west; and from the 15th to the 20th of this month, it blew with such violence from the same point, as to wither the leaves of the potatoes and turnips, and even open the husks of some of the ears of wheat on fields most exposed. These inclement periods, however, being followed by weather quite on the other extreme, their effects soon disappeared, although there can be little doubt but crops must have been thereby diminished in weight. But taking the crop altogether, there is no cause to complain. The hay turned out a much better crop than it once promised; and having been mostly in hands during the dry blowing weather, from the 15th to the 20th current, has been almost all secured in the stack or tramp tick, in the finest order. As land possessed a sufficiency of moisture during the time of sowing turnips, they generally made a fine braird, but experienced a partial check by drought and the fly in the latter end of June. More favourable weather ensuing, those affected speedily recovered; and being now properly cleaned, we have a fair prospect of a good crop.

Corn crops on light lands were suffering by drought till within the last eight days, when we had a supply of rain, which has been of material service; and being blessed with warmth and bright sunshine, the most beneficial consequences may be expected. Wheat, barley, and oats, generally promise to be good, though not bulky; and seldom have peas and beans promised better than this season. Little harvest can be expected before September. Fallows have enjoyed excellent weather for working them, and are well advanced. Potatoes are considered deficient in leaf, owing, perhaps, to the severe winds; but are now growing fast, and may yet turn out a full crop. An importation of oatmeal has been found necessary; which sells, wholesale, from 32s. to 33s., and in retail, to 35s. per 9 Dutch stones.

This has been an excellent stock-farmer's year. The demand for cattle has been steady, and prices increasing. Good stock may now be reckoned at upwards of 8s. per Dutch stone, sinking the offal. Highland wedders sell at from 20s. to 24s. Coarse wool at 8s. per stone smeared, and 10s. unsmeared, being nearly double last year's prices.——31*st July.*

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Dumfriesshire Quarterly Report.

THE weather for this quarter has been favourable for farm labour and vegetation, with little exception. In the last days of May and first of June, the cold rains seemed to chill the earth, and from the 15th June to the 25th of July, the extreme drought appeared to injure pastures and corns upon light gravel soils; yet, on the whole, the state and appearance of the corn crops are favourable, and promise, at least, an average return to the farmer. The potatoe crops were for some time stinted by the drought, but, owing to the late showers are now more promising. Turnips were sown in good season, and came up well, but were immediately destroyed by the fly, excepting the Swedish variety, sown within the month of May, which the fly did not affect. Common turnips also, which were sown thick, though injured and kept back by the fly, are now appearing to be a decent crop; but those sown thin were totally cut up. Some fields have been sown again, but such are seldom crops of promise. The sowing of turnip-seed particularly thick, appears to be the best preventive against the destruction by the fly; but if they come up uninjured, it will be proper to thin them early, otherwise they do not readily recover the weakness of the stem occasioned by the thick and quick growth. The permanent advantages of a well managed turnip crop cannot be too much impressed on farmers who have not been in the habit of raising them.

The price of wool took a favourable turn in the spring; and is now about 30 *per cent.* above the prices of last year. The wool of white-faced sheep, commonly of late years called Cheviot, is sold from 28 to 36s. the stone of 24 lib. avoirdupois. Blackfaced, or short sheep wool, from 9 to 10s. It might not be prudent for farmers, or even landlords, to wish for still higher prices, without an assurance or prospect of its continuing. As the price of stock of all kinds almost always follows that of wool, an immediate rise of the rent of farms out of lease takes place; and if the increased price of wool has not been well founded, loss, and inability to pay rents is the consequence. The farmer suffers the first loss; but the landlord does so more permanently, as his establishments, proportioned to his high rent-roll, are not brought back again with facility, or without regret.

Whitefaced lambs have sold from 10 to 13s. Short, or moorland lambs, from 8 to 10s, the best kinds. Cattle are at high rates. Milk cows in May and June from 15 to 20*l.* Year old stots from 4 to 6*l.* Two years old from 6 to 9*l.* The late unfavourable news from the Continent have damped the spirit, or rage, for buying.—— *August* 1.

Berwickshire Quarterly Report.

IN the first week of June we had a storm at N. accompanied with snow, which covered the hills white for three nights in succession, and gave a severe shock to the vigorous vegetation which the warmth of May had called forth. Since that time the weather has been

moderate; but, from the frequent recurrence of northerly winds, the average temperature has been a good deal lower than that of June and July 1808.

The wetness in the beginning of June, while it retarded turnip work, made the heavy loams so waxy, that they did not work freely afterwards; and on these soils the young plants remained long stationary: indeed the crop in general made but little progress till towards the end of July; it is now, however, mostly thinned out, and in some cases, the second hoeing has commenced. Early sown fields were greatly annoyed by the fly, whose depredations continued, even after the plants were far advanced in the rough leaf, which has occasioned blanks, both amongst the rutabagas, and early sown turnip; and, in some instances, it became necessary to sow a second time. Several fields also missed in such a way, as to give reason to suspect the quality of the seed: but the loss in this county has been small, when compared with that in Roxburghshire, where the failure attributed to this cause, is said to be little short of two thousand acres.

The wheats are at present healthy and vigorous, but the autumn sown fields are in many cases thin. Barley is generally good; and oats promise to be a full crop, particularly upon loamy soils after lea. Peas and beans are both luxuriant, but they were late in showing the bloom. Upon the whole, we have seldom seen the grain crops wear a more promising aspect, though much still depends on the complexion which the weather shall assume before harvest, particularly as appearances rather seem to indicate that it may be a late one.

The weather proved extremely favourable for hay-making, till the beginning of last week, since which it has been much interrupted by thunder-showers; the crop in general will not prove weighty, having, in many cases, been pastured in the spring.

Potatoes are a thriving crop, and almost entirely free of the curl. Pastures have been good, and lean stock has all along found a ready market, at prices considerably above the rates of last year; fat has also had a current demand. Beef at 7s. 6d. to 8s. 6d. per stone sink; and mutton at 8d. to 9d. per lib. avoirdupois.

Long wool has been selling, readily, at 1s. per lib. avoirdupois; and at St Boswell's fair, lambs sold from 25 to 30 *per cent.* above the rates of last year.

Corn markets have been advancing of late. At Berwick, July 29th, wheat sold from 60s. to 75s.; Barley from 33s. to 35s.; oats from 24s. to 29s.; and beans from 42s. to 44s. per boll of six Winchester bushels.—*August* 2.

Fifeshire Quarterly Report.

In this county, a continued tract of dry weather made the hay crop rather light: it may, however, be rated at near an average crop, and was generally got up in excellent order. The price is supposed to be from 9d. to 10d. per stone.

On the 26th July, and almost every day since, we have had continued rains;

rains; but partial as to extent, being fair in one part of the county, and rainy in another, alternately. The victual being moſtly in the ear, little is lodged, and no damage has enſued. Wheat is a good crop in general; no mildew has taken place, and little blacked is to be ſeen. Oats are every where good, and offer an abundant crop. Peas and beans the ſame. Barley is alſo good, eſpecially what was early ſown; but, in many fields, a moſt uncommon quantity of blacked ears have appeared, particularly in the fineſt ſoils.

Turnips came up unequally, probably owing to the dry weather at ſowing; but, ſince the rains commenced, have a vigorous appearance, eſpecially the plants that ſprung firſt; but there are many blanks. Little flax was ſown this year, as ſeed could not be procured; but what was ſown promiſes a good return. Potatoes, as yet, have but an indifferent appearance, not filling the ground well. Since the rains, however, they have mended conſiderably. Paſtures, in general, are excellent. The cattle thrive well, and have a ready demand from England. The victual markets continue ſteady, with almoſt no variation in price.

If dry warm weather ſucceed, there is reaſon to believe the harveſt will not be late. Upon the whole, the proſpect is conſoling; and it is hoped that ſcarcity is not to be dreaded. ——*Aug.* 2.

Inverness-shire Quarterly Report.

The froſt was ſo ſevere on the laſt day of May and 1ſt of June, as to blacken potatoes that were above ground, and the young ſhoots of trees; and, of courſe, to do material damage to the ſeveral growing crops of grain. On the whole, we have had a favourable ſummer; a more promiſing crop of corn having been ſeldom known in this county; and if dry weather is received, the harveſt will not be late, though by no means ſo early as laſt year. Amongſt the wheats, a ſingle ſmutted ear is not to be ſeen; but many of the beſt fields are much affected by the yellow gum or ruſt; and the thin-chaffed ſort fully as much as the woolly-eared variety. The hay crop is rather light; but, in general, it is well ſecured. Many complaints of turnips not having brairded equally, prevail; and, on the whole, this plant will yield an indifferent crop; though, where early ſown, and huſbandry good, they are not much amiſs.

Black cattle and ſheep continue in great demand, and at high prices. Indeed, for a long time paſt, there has not been a more favourable year for Highland huſbandry than the preſent one. Wool has advanced from two to three ſhillings per ſtone. Beef and Mutton 6d. to 8d. per lib.; Oatmeal 32s. per boll of 9 ſtone Dutch; and there is abundance of ſupply on hand.——*Aug.* 3.

P. S.—On Friday, 4th inſtant, a dreadful thunder ſtorm, accompanied by a deluge of rain, took place in the neighbourhood of Inverneſs, and lodged all the ſtrong corns, beſides doing much other damage. At Kirkhill, ſeven miles to the weſtward of Inverneſs, a ſhower of ice fell, which lay on the ground, undiſſolved, till the forenoon of Saturday. About 40 ſheep were killed, by one ſhot of lightning, on the hill ſituated betwixt the Aird and Urquhart. Many fields of potatoes and beans are nearly deſtroyed.——*Aug.* 8.

Mid-Lothian Quarterly Report.

On the three laſt days of May and 1ſt of June, great quantities of

rain and ſnow fell, accompanied with froſt, which not only drenched and chilled the land, but proved highly inimical to the growth of the various crops, and to vegetation afterwards. Since the middle of June, the weather has been more favourable, both in promoting vegetation, and for ſucceſsfully conducting the operations of ſummer-fallow, and dreſſing the green crops. Haymaking has been executed almoſt without interruption, in the beſt poſſible condition.

From theſe circumſtances, the crops, which had ſuffered much by the ſeverity of the cold and exceſs of moiſture early in June, have greatly recovered, and have regained a promiſing appearance. Indeed, the blight or yellow ruſt is apparent in many fields of wheat; but this is partial, and only affects thoſe fields which happened to be in bloom when two boiſterous days occurred about a fortnight ſince. Should dry, genial weather prevail through the preſent month, a full average crop may be looked for.

Oats and barley may likewiſe be rated at an average crop, with the exception of thoſe upon thin ſoils and an impervious bottom. Beans and peas ſeem to go too much to ſtraw. Potatoes are more various. Such as grow upon deep dry loams look fine; while thoſe upon heavy damp ſoils are indifferent.

Hay is well got, and of fine quality. Perhaps it would be adviſable that every farmer ſhould ſet aſide a portion of it for his own horſes, now when dung has got to ſo great a price at the metropolis; while thoſe at a diſtance ought never to part with any of it, unleſs it can otherwiſe be replaced in manure. The demand to England for cattle ſtill continues briſk; conſequently, high prices are maintained.——*Aug.* 3.

Letter from Falkirk, Aug. 4.

'In the weather, ſince laſt report, has not been invariably ſuch as the farmer could have wiſhed, it has not, upon the whole, been unfavourable to the varied purpoſes of agriculture. Drought has been at times exceſſive, but never long continued, without the intervention of moderate rains; and theſe have not hitherto gone the length of lodging the crops to any extent; which has been the caſe before this period of the ſeaſon, for ſome years paſt; and, particularly laſt year. The greateſt want, hitherto, has been a due degree of heat, which threatens to throw general harveſt late,—a circumſtance always to be dreaded in our northern climate. We ſhall probably have partial harveſt in two or three weeks, but not likely to become general before the end of the month, or beginning of September. Nothing could have exceeded the admirable weather of hay-harveſt. From the time the ſcythe entered to work, until the hay was either in the ſtack or ſecured in the tramp-rick, not a ſhower of any conſequence. It is therefore got up in the higheſt poſſible ſtate of perfection, and turns out, although by no means a weighty crop, yet conſiderably better than was expected ſome time ago. It mended greatly during the laſt two or three weeks previous to cutting. The price ſtarted at 1s. a ſtone, but has ſince rather fallen: the buyers ſeem now to make a ſtand at 10d., although the ſellers do not readily accede to that price.

'Our

'Our grain crops may be reported fully equal to an average, except wheat, which, as ſtated in laſt report, is pretty generally thin on the ground, and will be therefore deficient in bulk: probably, however, from not having yet been lodged, it will turn out of better quality than laſt year. Early ſown barley will be a tolerable crop; what was late is far leſs promiſing. Oats are almoſt every where a fair crop, and, in many ſituations, excellent. This is ſaid to be alſo the caſe in the moorlands, where they conſtitute the principal article of produce. Beans are, upon the whole, probably the beſt crop in the Carſe, and promiſe a better return than for ſome years paſt. Paſtures have carried through a larger ſtock than uſual; are ſtill excellent; and, with the moiſture lately received, are likely to continue to afford a full bite. The ſeaſon has afforded every facility for the important proceſs of ſummer-fallowing, which is therefore in an advanced ſtate, and generally in good order. Our grain-market has not ſuffered the fall pretty generally looked for at the time of laſt report, in conſequence of the then ſituation of affairs with America. On the contrary, in the face of a pretty conſiderable importation from that country, and on the very verge of harveſt, with an appearance of ſteady weather, the price of wheat has been gradually creeping up, which would have been leſs ſurpriſing had it occurred three months ago: but on no ſubject are we apt to form more erroneous opinions than on this; it ſeems often to ſet every rational conjecture at defiance. Our preſent price is much the ſame with that of Haddington, that is to ſay, our average price; for our top prices never reach ſo high as in that market. In the courſe of the quarter, the butcher market has riſen a little, but leſs than the price of cattle would ſeem to warrant.'

Forfarshire Quarterly Report.

The weather, during the preceding quarter, has been more favourable for the growth of plants, than for cleaning the ground. The firſt two weeks of June were wet, and the ſowing of turnips much impeded and unſatisfactorily executed. The remainder of the month was dry; and, conſequently, a greater part of the turnip crop was later ſown than in ordinary years. Many fields were ſown a ſecond time, and the braird of them now appears cloſe. On the whole, the turnip crop has a leſs promiſing aſpect than for ſeveral years paſt, the early ſown being thin planted and unequal in growth. The moſt of July has been warm ſhowery weather, and the crop has improved conſiderably in bulk; but the wet weather is now continuing ſeriouſly long; and the bad effects of it laſt year are ſomewhat dreaded on the wheat crop. A yellow ruſt has appeared pretty generally on the ear; but little of the crop is yet lodged. A tract of dry, clear weather is moſt anxiouſly looked for. The harveſt, at all events, will certainly be late; and little grain will be cut down before the firſt week of September.

Notwithſtanding the uncommon high rents given for graſs parks, this will be a good year for the grazier. Every market, for two or three months back, has been better than the preceding one; and cattle of every deſcription are as high in price as at any former period. Their value is not likely to fall for a few years yet, if it may be inferred from the

the ſcarcity of ſtock in the country. Sheep and horſes have alſo had a briſk ſale.

The hay crop is moſtly yet in the fields: the price for new hay is about 10d. or 11d. per ſtone. The high price and good demand for every article of farm produce is ſtill increaſing the rent of land. A farm of good ground, at an ordinary diſtance from markets, cannot be got under 4l. or 5l. an acre.

Grain markets have been rather riſing of late. Good wheat brings upwards of 50s. per boll; other grains are moſtly out of the farmers' hands; but no apprehenſion of ſcarcity till this crop is got in.—*Aug.* 5.

Letter from Glaſgow, Auguſt 5.

'THOUGH the months of June and July were not diſtinguiſhed for that genial warmth uſually attendant on ſummer, yet the weather has been ſufficiently good, upon the whole, to advance the growing crops, in their way to maturity, not late not far ſhort of any former ſeaſon. If the weather, which has been ſoft during the laſt eight days, clear up, and continue fair and warm, we are of opinion the harveſt will not be above a fortnight later than laſt year.

'Wheats, which at one time had a thin and rather indifferent appearance, were wonderfully improved by the refreſhing ſhowers of the month of July; and promiſe, if not an abundant, at leaſt an average crop. Oats are every where luxuriant; ſo are beans and peas; and both promiſe well.

'Potatoes look well on potato ground; but, on other lands, they preſent an indifferent and ſickly aſpect. It is dreaded that they will be deficient in quantity. Hay, though a light crop, is of excellent quality, and was all ſecured in the beſt condition.

'The importations of wheat and flour into the Clyde from America, have not, as yet, been equal to our expectations; and though large quantities of both, particularly of the latter, have arrived thence at Liverpool, and conſiderable purchaſes been made there on Glaſgow account; not more direct and circuitous, have yet reached our market, than about 8000 barrels flour, and 1300 quarters of wheat. This inconſiderable ſupply, with the uſual quantity from the north and eaſt of Scotland, (the ſtock of old wheat being much reduced), was inſufficient to prevent fluctuation in the price of this grain. It has for ſome time, therefore, been inclining upwards; and this riſing propenſity received a freſh ſpur on Wedneſday, by the arrival of papers from America, announcing the proceedings in Congreſs with regard to the Non-intercourſe act. It is not for us to enter into a diſcuſſion of this ſubject. There are various opinions reſpecting it; but it is our firm perſuaſion, that nothing ſhort of the moſt urgent neceſſity will induce the Americans again to recur to that ſyſtem of ſelf-denial, which has already proved, and muſt ever prove, ſo ruinous to their intereſts.

'The importations from Ireland, ſince our laſt letter, have amounted to 50,000 bolls oats, and 8000 bolls of oatmeal. This conſiderable influx has been the means of preſerving a ſteadineſs in the market; and as more arrivals are ſtill expected, it is probable the price will experience little variation for ſome time. We ſubjoin the prices current.

'State

'State of Glasgow Markets, Saturday, 5th August.

Scotch Wheat -	46s. — 50s.	p. boll Linlithgowshire measure.
American do. -	44s. — 51s.	ditto of 240 lib.
Irish do. -	45s. — 47s.	
Irish Mealing Oats	27s. — 28s.	ditto of 264 lib.
Scotch Potatoe do.	26s. — 28s.	ditto Renfrewshire measure.
Ditto Small do.	23s. — 24s.	
English Beans	31s. — 34s.	ditto ditto ditto.
Scotch do.	30s. — 32s.	
Scotch Oatmeal	25s. — 29s.	ditto of 140 lib.
Irish do.	24s. — 25s.	
Fine Flour	76s. — 78s.	p. sack of 280 lib.
Amer. superfine do	50s. — 52s.	p. barrel.

East Lothian Quarterly Report.

THE month of May concluded in an unfavourable manner, and June opened with froſt and ſnow;—a circumſtance not hitherto recognized in the agricultural annals of this county. Winter wheats of courſe ſuffered ſeverely, and have not recovered from the check then ſuſtained. The ſpring ſown crops were leſs injured; and, viewing them in a general manner, may be reported, at this time, as promiſing an ordinary average.

Still much depends upon the ſucceeding weather; for none of the crops are out of danger, eſpecially ſpring ſown wheats. Even winter wheats received injury from the damps and fogs which preceded the late rains, many fields being covered by oaker or gum, and ſeveral attacked by a worm on the ear; and, as rainy weather ſtill continues, incalculable miſchief may be expected. On the whole, the grain crops are in a perilous ſtate, all the ſtrong fields being lodged, and few of them ſo forward as to promiſe regular harveſt before the end of the month. Oats, eſpecially, are later than uſually happens.

Hay is generally ſtacked in good order; but clovers, which were depaſtured in the ſpring with ſheep or cattle, now cutting, or lately cut, are not in good condition. Turnips are not ſo forward as uſual, much bad ſeed being ſown, which will be an incalculable loſs, not only to many individuals, but ultimately to the public. The ſeed was evidently *of age;* therefore, in numerous inſtances, brairded imperfectly. Where it did braird, the plants were ſickly and debilitated; conſequently, unable to bear up under the ſlighteſt adverſe circumſtance. Ruta baga and yellow turnips make a fine appearance, good ſeed having been procured of theſe varieties; and there are inſtances of yellow turnips having been fit for ſetting out eight days ſooner than white ones, though ſown in the ſame day, and upon the ſame field; entirely owing to the ſtrength of the plant, produced by freſh, healthy ſeed, which had not been kept for more than one year, or received any damage in the ſtack, or previouſly in the winning proceſs.

Except for wheat, the grain markets have been nearly ſtationary. This article has advanced conſiderably, and would have advanced a great deal more, had not foreign importations interfered. The butcher market ſtill keeps up; and, from the great riſe upon lean ſtock, there ſeems little probability that a declenſion will take place through the ſeaſon in the price of beef or mutton.

At the general ſeſſions of the county, it was moved, and unanimouſly reſolved, to thank the Right Honourable Lord BINNING for his able and independent conduct in Parliament, and, in particular, for the conſtant and unremitted attention ſhown by his Lordſhip to every public meaſure connected with the agricultural and commercial intereſts of the country. This meaſure has given great ſatisfaction, being decidedly due to the public conduct of the noble perſonage. At the ſheep ſhow at Scoughall, his health, with three times three, was drunk by the company there aſſembled; and this being done by an aſſemblage of agriculturiſts of the firſt reſpectability, evinced their entire approbation of his public conduct, and the gratitude felt for preſenting the petition from this county reſpecting the Property-tax, in which buſineſs his Lordſhip acted in the moſt polite and handſome manner.——*Aug.* 7.

P. S.—Since the above was written, the corn crops have been much injured by a continuance of unfavourable weather; and it is now diſcovered, that many fields of winter wheat are blaſted, therefore colouring prematurely. On the night of Thurſday, 10th inſtant, a ſevere thunder ſtorm occurred, accompanied with heavy rain; and as weather of the like nature ſtill continues, conſiderable damage muſt neceſſarily be ſuſtained by every farmer whoſe crops are above mediocrity. Wet weather during the proceſſes of filling and ripening, is rarely miſſed in this county. In fact, ſuch weather is the greateſt evil which can befal the huſbandry of a corn diſtrict, and, in its conſequences, generally operates againſt the farmer in direct proportion to the goodneſs of the ſoil which he poſſeſſes, and to the richneſs of the crops thereupon produced. The harveſt, at all events muſt now be late. Some fields of barley promiſe to be ready for the ſickle in eight days or ſo; but general harveſt cannot be expected ſooner than the firſt week of September.—14. *Auguſt.*

ENGLAND.

Northumberland Quarterly Report.

THE fine weather, during the greateſt part of May, terminated on the 26th, and was ſucceeded by cold and rains until the middle of June; by which many ſoils were ſo drenched with wet, as to prevent ploughing for eight or ten days. The remainder of June was fair and fine. The firſt ten days of July were wet and cold. From that period to the preſent, the weather has been warm, dry, and very favourable to the hay harveſt.

The fallows for turnips upon ſtrong loams, that were rendered ſo cloddy by the dry weather in May, got into the oppoſite extreme by the great falls of rain, and made unfit for ſowing turnips upon them; but, to the dry light loams, this wet was of the greateſt advantage, the young plants being up in a few days after the ſeed was depoſited; but diſappeared again almoſt as readily, being eaten off by the fly, which occaſioned a great many fields to be ſown twice, and ſome have been ſown three times. This inſect was ſcarcely known here formerly. Of late years, it has increaſed very much, eſpecially in the three laſt; but the ravages of this year are by far the moſt extenſive. From the circumſtance of a ſecond ſowing, turnips are very late, and at preſent in a moſt unpromiſing ſtate.

The corn crops upon clay ſoils and moiſt loams are thin, both in this county and the county of Durham. Upon dry ſoils the crop is luxuriant, not only of wheat after turnips, but of every other ſpecies of grain.

Whether it may be productive, depends on the weather for the two or three enſuing weeks. The harveſt will be late.

Of new graſs the hay crops are very light, the red clover being much deſtroyed by the ſeverity of the winter. In moſt places there is not one third of the clover there ſhould have been; and, upon thin, wet ſoils, it is totally deſtroyed. Upon dry old meadows, the hay crop is great.

Our corn markets are advancing, eſpecially for wheat of good quality, of which there is little in the farmers' hands. What is now to bring to market is moſtly of very inferior quality, and much of it that will yield only a ſcanty portion of flour.

The markets for fat ſtock have been pretty regular through the quarter, and prices good. Beef from 7s. to 8s. per ſtone of 14 lib. ſink; and mutton 8s. 6d. to 9s. The demand for wool is greater than laſt year, and prices higher. The average price for long wool is 1s. per lib., and for Cheviot 1s. 8d. per lib. At Yetholm fair, long-woolled lambs ſold from 16s. to 22s. per head, and Cheviot from 10s. to 14s.——27. *July.*

Suſſex Quarterly Report.

In the beginning of June there was a continuation of fine rains, which were of great ſervice to every kind of produce; and to theſe rains ſucceeded about three weeks of remarkably fine weather, which permitted the whole of the artificial graſſes to be got up in capital order; but the rain that fell was extremely prejudicial to the meadow graſs, which, to a very great extent, was expoſed to repeated waſhings, and of courſe much injured; but fine weather again ſucceeding, gave an opportunity of thoroughly drying it, and of finiſhing the hay harveſt in a very favourable manner. Both natural and artificial graſſes may be eſtimated at an average produce. The injury, however, ſuſtained by the hay has been amply recompenſed by the benefit the turnips derived, and, indeed, every ſpecies of corn. Oats would have been a very deficient crop but for the very ſeaſonable rains, though they muſt ſtill prove under an average produce. The barley and peas are very promiſing; the latter unuſually good, upon all varieties of ſoils. The wheats are much improved within the laſt ſix weeks, and will admit the ſickle in a few days: they will certainly not reach an average crop: the deficiency may be eſtimated at leaſt at one fifth: I am afraid it will prove greater, as they are generally thin on the ground, even on the good land near the ſea-coaſt: they are beſt on the ſtrongeſt and heavieſt ſoils. Hitherto there has been no appearance of blight; and if any reliance is to be placed upon the old obſervation, of its yielding well from the number of black ears, the wheat crop may prove better than at preſent expected. Beaſts, ſheep, and lambs, are much in demand, and of courſe fetch high prices. Cart horſes uncommonly high. Oxen appear coming more into faſhion. South Down wool has been very eagerly purchaſed, at 2s. 6d. per lib. the inferior ſorts; the better kinds fetch 3s.; and 5*l.* per tod of 32 lib. is expected.——30*th July.*

Letter from a Farmer in Wales, 30th July.

'The hay harveſt has been remarkably good; and little of that article remains in the field. A tract of cold wet weather, in the end of

May and beginning of June, threatened to ruin the wheat crop; but the warmth of the current month has recovered it conſiderably, the ſtraw being clear in the reed, and the ears well filled. If good weather continue, harveſt will be general next week through the vale of Glamorgan. Oats will be of little bulk, being ſhort in ſtraw, though full of corn. The potato-oat is now generally ſown here; and a much greater breadth of ground is under that grain than uſual, there being no market for barley. Peas and vetches, in general, are fair crops; but beans having failed in the two laſt years, are given up; and, to my knowledge, there is not one field of them in the diſtrict. Turnips, in many places, look well; though many fields were taken off by the fly, which is very prevalent, about the middle of the ſeaſon; ſo that thoſe firſt and laſt ſown promiſe to be beſt. Potatoes will not be a great crop, as the weather has lately been too dry for them. As for fruit, there is a general complaint of the orchards having failed, owing to the cold damp weather in April and May.

'Corn markets remain nearly ſtationary. When the American importations were made, our millers ſtopped buying, and wheat lowered in price for a fortnight or ſo; but it has now got up to the old rate, and threatens to advance higher, as we have very little ſtock in hand. Cattle, both fat and lean, keep their price, and ſo do ſheep. Lambs that ſold laſt year at 16s., have been ſold at 20s. and 21s. Store pigs are ſcarce and dear. Wool has varied much in price, owing to the great quantity lately puſhed into the market; there being, for ſimilar qualities, given from 25s. to 42s. per ſtone of 21 lib., on different days.

'I have ſeen but two fields of wheat touched with blight this year; one of them a pretty full crop, and the other indifferent. Upon examining them, I obſerved a barberry tree in the hedge oppoſite to one of the fields; and it was remarked to me, that the part of the field oppoſite the tree had not eſcaped blight during the four paſt crops of that grain which had been raiſed upon it. In the other field, the occupier mentioned that his predeceſſor had left off ſowing wheat upon it, though the beſt ſoil in the farm, merely becauſe that the grain was always blighted. We went to examine the field, and found a barberry tree in the hedge, around which, for many yards, the wheat was as if it had had been burnt up. Indeed, the whole field was affected in ſome degree; but the farther from the barberry, the leſs injury appeared. There are ſeveral other fields in this neighbourhood affected ſomething in the ſame way, all of them near farm-houſes, where a tree of that ſort is generally planted, as the inner bark is ſaid to be a certain cure for the yellow jaundice, the tree being called in Welſh, the *prin clevot millin*, which means, the yellow diſeaſe tree.'

Yorkshire Quarterly Report.

THE crops of this country are at preſent likely to be equal to a fair average. Wheat in general looks uncommonly well; though, of late, ſome ſymptoms of mildew have appeared in the lower parts of the county. Barley is good on well managed land. Oats are much as uſual. Beans and peas ſhow a capital appearance; but, unluckily, that ravenous inſect, commonly called in the ſouthern counties the *Collier*, has commenced his deſtructive operations in ſeveral places.

The ſummer and turnip fallows have been carried on without material hinderance. Turnips are doing tolerably well, notwithſtanding the drought of the laſt two or three weeks. Here and there patches of drilled Swediſh and common ſorts have begun to make their appearance; the ſucceſs of which, it is to be hoped, may contribute to the further extenſion of that ſyſtem of management—a ſyſtem fraught with many advantages both to the cultivator and to the intereſts of agriculture.

Hay and clover do not afford ſo abundant crops as laſt year; but the paſtures are uncommonly good and nutritive. From every appearance, cattle and ſheep are not likely to be cheap, as the ſecond crop of clover, from the fine ſhowers lately received, is likely to exceed the firſt. Wool ſells well. Fine ſorts ſo high, as to bring that bad breed, the ſheep of Spain, into faſhion; but honeſt John Bull will ſoon find to his coſt, that fine lady's cloth is but a ſorry exchange for good fat mutton.—*Aug.* 1.

Norfolk Quarterly Report.

THE continued dry weather throughout the month of May and part of June, ſhortened the hay crop on all ſoils. Nor was the ſeaſon for getting it ſo favourable as that of laſt year; ſtill, this year's produce is not conſidered to be any thing ſhort of a fair average. Fine ſeaſonable rains coming in the end of June, and continuing the greater part of July, has made the after feed (or eddiſhes) ſo abundant, that the proſpect of autumn food for ſtock has ſeldom been exceeded. The ſeaſon for ſowing turnips has alſo been remarkably fine; there appears to be a general good plant; and never was there leſs complaint of the fly, which, in many ſeaſons, proved ſuch a deſtructive enemy to that very valuable root, when in its infant ſtate. Planting potatoes in this county increaſes yearly, this root proving to be of great utility both to men and cattle. From the preſent favourable appearance of the two laſt mentioned crops, as well as that of hay-ſtacks, a plentiful ſupply of winter food, for ſtock of every deſcription, may be expected. The crop of lambs of this, far exceeds that of laſt year in increaſe; ſtill prices ſeem to advance, as thoſe of the Southdown breed already brought to market have obtained from 18l. to 24l. per ſcore. For wool great prices are given. Flocks of fine quality ſell for 84s. per todd of 28 lib.; while the mixed Norfolk and Leiceſter fleeces will not fetch more than half that ſum. Harveſt is faſt approaching. There are a few inſtances of wheat, peas, and oats being cut; but we cannot expect a general harveſt in leſs than a fortnight. The wheat crop is partially good. On a general ſcale, it is conſidered much lighter than laſt year. Fortunately the mildew has not affected it much; the ears are well filled; the kernel full and plump; and, from the preſent appearance, a finer quality may be expected. Barleys ſeem generally good, ſuperior in look to thoſe of late years. Peas promiſe well, though the breadth of the crop is leſs than uſual. The breadth of oats is not extenſive, owing to the inundated ſtate of the fens; and the crops of this grain are conſidered much inferior to thoſe of laſt year. Beans are looking well; they are quite free from the inſect; and promiſe to be very productive.—*Aug.* 1.

Letter from London, 2d August.

'SINCE laſt report, the agricultural appearances of the country, in the vicinity of this metropolis, have undergone various changes, and,

upon the whole, they cannot be conſidered ſo favourable at this moment, as held forth by the ſeaſonable fine ſeed time experienced for almoſt all deſcriptions of grain. After the heavy rains and conſequent floods in the months of March and April, a conſiderable drought prevailed to the [illegible] of all ſpring crops, which, though relieved by [illegible] the latter end of June and early in July, are, on the whole, not ſo luxuriant as at this time laſt year.

'The plant of wheat is generally acknowledged to be thin on the ground, and ſhort in the ear, but promiſes an exceeding fine ſample, except in the ſtrong clay lands in Eſſex and Kent, where the crop is the heavieſt, and where blight and red gum have appeared. The harveſt of this grain has commenced under very auſpicious circumſtances; and, ſhould the weather be favourable, a great deal will be houſed in a fortnight or three weeks. In general, it is anticipated that this crop will not exceed an average, and may even fall ſhort of the produce of laſt year. In the counties of Norfolk and Suffolk, the growth of barley is abundant and healthy; though, on light and gravelly ſoils, it has never recovered from the effects of the drought; and, under the impreſſion of grain diſtillation not being permitted, a leſs breadth than uſual was ſown with this grain. The inundation of part of the Fens in Lincolnſhire and the Bedford level, at the time that oats ſhould have been put in, cauſed a great delay in aſcertaining the extent of the growth of that grain; but it now appears that there are fully more acres than uſual under this deſcription of corn, and that the crop is generally good.

'The ſupplies of all deſcriptions of grain have been abundant. A very large proportion of wheat and oats coming from the Continent, has kept the prices down, and almoſt ſuſpended the accuſtomed coaſting arrivals, which have been unuſually ſmall; and, in conſequence thereof, it will be found that a conſiderable ſtock of oats remains in the hands of the merchants at the outports, and of wheat alſo, the extent of which may be conſidered as large at leaſt as is uſual. The renewal of friendly intercourſe with America, has furniſhed us with ſome quantities of flour and wheat; but the weight of arrivals from that quarter has been at Liverpool, where, from the ready ſale they have experienced, it would appear they have been found extremely ſeaſonable, and the means of preventing higher prices, which would have otherwiſe occurred. Prices here have been pretty ſteady; and though, within theſe ten days, they have a little advanced, that advance may be imputed to the abſence of ſupplies from the embargo on our own ports, and the neceſſities of our millers, whoſe ſtocks are acknowledged to be ſhort. Our armament, lately failed, will probably, from its ſuppoſed deſtination, conſiderably interfere with the ſources of Continental ſupply. Below are the prices at the corn exchange here.——31. *July.*

'State of London Markets, 31ſt July.

Wheat, Engliſh, White	- -	94s. 98s. 103s.	per quarter.
——— Do. Red	- -	84s. 88s. 91s.	
——— Dantzig	- -	95s. 97s.	
Barley, Norfolk and Suffolk	-	40s. 42s.	
——— North Country	- -	30s. 32s.	
Malt, Norfolk and Suffolk	-	75s. 77s. 80s.	

Beans, Small - - -	56s. 59s.
Ticks, and Large - -	46s. 49s.
Oats, Potatoe - -	37s. 39s.
—— Poland - - -	34s. 37s.
—— Feed - - -	28s. 32s.
Flour, English, per Sack -	75s. 80s.
—— American, p. Barrel, of 196 lib.	48s. 53s. 54s.

Cumberland Quarterly Report.

THE appearance of the wheat crop since last report is more flattering, yet it is by no means an average one; and many individuals have to lament severe losses in consequence either of partial or total failures of this *golden* grain. Lent corn is in a state of great forwardness, and promises to be very good. Invariably, so far at least as my observations have extended, the early sown crops are best; and instances are not wanting of farmers who, on the most moderate estimate, must lose 2*l. per acre* for deferring their seed time till the 22d of March. Early sown barley will be ready to reap in two weeks; some is even now ready. *Late* sown barley, on rich lands, is *lodged* by the late heavy rains; and on poor soils, the dry weather, retarding its progress, made it assume a very sickly appearance. The weather, during the hay harvest, until the 27th of July, has only been equalled by the last. Meadow hay good; and sown grasses an average crop. J. C. Curwen, Esq.'s crop of grass, on his meadow, *irrigated* two years ago, is excellent. It consists of 22 acres, scarcely worth 35s. per acre when first irrigated, and is now *cheap* at 5*l.* 10s. per acre. Where clover has been sown at the rate of 14 lib. to the acre, some uncommonly luxuriant crops have been raised; and the aftermaths are not much inferior. Soiling has made a rapid progress through the whole of the county. The prejudice of *custom*, and the opposition of *ignorance*, are silenced, when the *profits* arising to our truly spirited and enlightened rural economist, J. C. Curwen, Esq., in consequence of his steady adherence to so rational a plan, are for a moment glanced at. Every agriculturist, who can contrast the present state of his farm with what it was three years ago, must be amazed at the improvements he has made. A considerable part of Moor Close farm was not worth 8s. per acre at that period, which is now bearing a crop of wheat worth, at the lowest valuation, 20*l.* per acre. All his green crops are good. His potatoes and cabbages are unequalled. His Swedish turnip excellent; and common turnip, sown on heavy soil, with only ashes and compost, must equal his highest expectations. In *two hundred and sixty* acres of wheat, 2 or 3 acres alone seem to have failed. His most determined opposers, if, as an agriculturist, he has an opposer, must be delighted to see his exertions, his unwearied diligence and attention, so amply remunerated. Envy itself must be silent, when it beholds the clearness, the luxuriance, and the admirable arrangement of his crops. It is stated with the greatest pleasure, that Sir James Graham, the proprietor of 25,000 acres of land in this county, has reset the whole, save three small farms, without SECRET proposals, or any other unman-

ly, *mean* trick, to his numerous and respectable tenantry, for a term of 14 years. I am sorry to say, his farmers have yet much to learn; and heartily wish some of the more enlightened would break the fetters of their ancestors. If such an example, united with the example and influence of our president, or any other cause, can be a means of *uniting* the affections of the landlords and tenants of this country—can induce the former to act with candour and liberality, and the latter with confidence and the spirit it uniformly inspires—then every friend to the agricultural interests of his country may exclaim, *Felices agricolæ, sua si bona norint.*——*4th August.*

Extract of a private Letter from London, 4th August.

'I was lately through some of the inland counties the length of Cheltenham, &c.; and must mention a circumstance pointed out by my son, a boy only of five years of age. 'Papa,' exclaimed he, 'did you ever see five horses and a bull in a plough before?' The fact was literally so; though, from the slow pace at which the plough moved, it appeared that the work was very hard both to men and cattle. The Vale of Evesham, or Esham, as it is called, is one of the finest agricultural objects I ever beheld, and might give employment to two hundred Scots farmers, who would treble its rents, and vastly increase its produce. The accounts which I have from the north of Ireland are pretty good; but, in the south, they have suffered severely from a want of rain.'

NOTICES TO CORRESPONDENTS.

Mr LAWRIE's *Reply* to the Strictures of 'A Constant Reader,' shall appear in next Number; together with Mr CAMPBELL's *Experiments*, and some ingenious Remarks upon Scottish Firs.

Various communications *concerning the best Form of a Lease*, are received, and will not be neglected. The subject is of importance, and deserves the fullest consideration.

The Sixth Report of the Commissioners for making and maintaining the CALEDONIAN CANAL, shall be attended to. It was too late in reaching us to appear at this time.

The Essex Report, and various other articles of intelligence, were too late in reaching us.

No. XL. will be Published on Monday, the 11th of December.

ERRATA IN THIS NUMBER.

P. 317. 6th line from top, dele the word *was*.

P. 391. 15th line from top, dele the word *required*, and substitute the words *did not require*, in its place.

D. Willison, Printer, Edinburgh.

THE

FARMER'S MAGAZINE:

DECEMBER, 1809.

(No. XL.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Dr Coventry.

SIR,

THE copy of a lease inserted in the Farmer's Magazine (Vol. IX. p. 182.), was drawn up for an estate in the south of Scotland, in the letting of which I had some concern. I beg leave, however, to mention, that I never considered that lease to be free of imperfections, or at all calculated to serve for arable farms in general. From having found a place in your respectable publication, it has attracted some notice, and excited some discussions, which, on the whole, I do not conceive can have any injurious effect, either to the proprietor of the estate alluded to, or to the public, as all are interested in the improvement of husbandry.

In drawing up the articles of a lease, one must consult the wishes both of landlords and tenants, their mutual prejudices and partialities, and their dread of loss from new or untried regulations, which a little looseness in language may allow the address of lawyers to abuse or render abortive. To show, however, that our Scotish leases are improving, I enclose 'Articles of Lease,' by which several farms on some extensive estates in the north of Scotland have been lately let; though still many circumstances concur to render the improvements in the lease too limited, and greatly short of bringing it to perfection. I trust I shall have it in my power, ere long, to submit another copy of articles, in which

there is more precision, and fewer restrictions on the tenant; for I could point out sundry amendments, which the situation of the estates alluded to, notwithstanding the highly commendable liberality of the proprietors, did not warrant my introducing.

Before I close this note, I beg leave to assure you, that the nobleman who is the proprietor of the estate in the south of Scotland, for which the lease inserted in the Magazine was drawn up, is extremely desirous to promote improvements in agriculture, and ready to give every liberty in the application of the lands and use of their produce, that any discreet person would reckon fairly consistent with the interest of his property. Notwithstanding some obscure insinuations, by one writer, about the prosperity of the tenants on that estate, produced, perhaps, by the situation of a very few of them, I have occasion to know that it is in a thriving condition, or in a state of progressive improvement, and that pretty rapidly; and that, by the late arrangement of the farms, not more than eight families, out of a rent-roll of above two hundred tenants, left the estate; but that there were dismissed, as useless or unnecessary for its tillage, (greatly more perfect of late than formerly), at least two hundred horses, and this even without the substitution of oxen,—which last, I conceive, were they discreetly introduced, would add to the improvements in that district.

I have the honour to be, with great respect and esteem,
Sir, your most obedient servant,
Edinburgh, 2. Aug. 1809. A. COVENTRY.

NOTE BY CONDUCTOR.

WE are highly obliged to our worthy friend Dr Coventry, for the above sensible and interesting communication, and also for the 'Articles of Lease' which follow. We have not leisure, at this time, to say more, than that we cannot consider the 'Articles' as any thing like perfect, particularly those which regard rent, and the mode of cropping to be practised. Agriculture is a living science; therefore constantly varying in its practices, and incapable of being accurately regulated during the whole period of a lease, by any agreement at its commencement. In short, while we have not the slightest objection against proprietors taking every fair means to obtain high rents, we are decidedly of opinion, that the management of the tenant should be left free and unrestrained, except in the four last years of the lease, when his interest may take a different direction from that of the proprietor. The tenant's management may then, with some propriety, be controuled; as the farm might otherwise be thrown out of shape, and the interest of the proprietor considerably affected. N.

Artic

Articles of Lease between a Landlord and his Tenants.

THAT the lands are to be let for the term of years, entry at next, to the tenants and their heirs, whe- of line or by appointment, but without division among heirs- oners, and excluding the benefit of collation to executors; stocking of cattle and corn sufficient for the land must al- be bequeathed to the heir along with the tack. Legal or ntional assignation or subsetting to be excluded, except on llowing conditions:—

That they shall not exercise this power during any of the three years of the lease, nor until they shall have done some- considerable for the improvement of the grounds, by clean- ith a fallow, or else a horse-hoed crop, and also manuring proportion of them, that is, not less than one sixth part of sually arable lands in each year, for three successive years diately preceding the time at which the subset or assignation take effect.

That they shall not diminish the extent of the possession by ing it among subtenants, but shall, if they exercise the above r, be obliged to subset the whole possession, or assign the e lease to one individual person; and always under the con- ns, restrictions, and whole obligations contained in the ori- tack, and particularly under this condition, that the farm not be left understocked upon any such change of the pos- r, and that the grantor of such assignation or subset shall in bound to the landlord after the same shall take place.

That the subset or assignation shall not be granted for any er period than the whole term of the lease to run thereafter.

That the tenant shall not be entitled to subset or assign, out first making an offer of surrendering his lease to his land- on receiving such consideration as they may agree upon; n case of their differing thereanent, the sum at which it shall fered to the landlord shall be fixed by the arbitration of neu- nen, mutually chosen, with power to name an oversman; if they differ about an oversman, he is to be named by the e-ordinary. If the tenant refuses to concur in naming va- rs, they are to be appointed as afterwards directed.

The lease is also to be granted under the following reser- ns and restrictions, viz.

Reserving to the proprietor all minerals, metals, coal, peat, limestone, and quarries of all kinds, with power to him, ose authorised by him, to search for, work and win, all or f these, in any part of the lands, and to carry them off at

any time; and also to make roads, aqueducts and levels, and to erect houses and machinery, when and where he may judge requisite for such purposes; the tenant being always allowed deduction from his rent, or otherwise paid, for any surface-damage done to the grounds, and loss occasioned to him, by any of these operations, as the same shall be ascertained by two neutral persons of skill, to be mutually chosen.

2. Reserving full power to make or alter roads through the lands, and also to straighten marches and exchange lands, either with any of the neighbouring proprietors, or with any of his other tenants; and the annual value of the ground taken away, or thrown into the farm, by these means, after being ascertained by two neutral men, to be chosen as above, shall be deducted from, or added to the rent.

3. Reserving power to form or repair march-fences, and, at any time during the first years of the lease, to make such subdivision-fences as the proprietor shall judge proper, providing the lands so to be enclosed shall not be of less extent than ten acres in each field or enclosure; the tenant being always bound to pay, in addition to his rent, at the rate of 6 *per cent.* on the cost thereof, in manner after specified, *i. e.* such additional rent or interest on the cost of the march-fences, commencing from the time that the fence is formed or repaired, so as to be rendered fencible for cattle, and on the cost of enclosing each field from the time it is made fencible for cattle, and to be paid yearly and termly thereafter along with the rent.

4. Reserving right to cut and carry away growing timber; and also, at any time during the currency of the lease, to assume possession of any part or parts of the lands which the proprietor shall choose, for being planted with trees, or for building houses, or for other purposes, provided the ground so taken shall not exceed acres; and the tenant shall be entitled to a deduction from his rent for the land so resumed, according as the same shall be settled by neutral men, to be mutually chosen; the proprietor being bound to enclose, at his own expense, the land so planted, and the tenant being bound and obliged thereafter to take care of, and pay one half of the cost of repairing such additional fences. The proprietor also reserves right to plant rows of single trees along the fences or boundings of the different fields, which he is to fence or secure, in a sufficient manner, with timber, to be renewed every fifth year, if necessary; and the tenant is bound to protect them and keep them in repair during the intermediate period; and likewise right to plant trees in the hedge-rows, the trees there and hedges being protected by the tenant.

5. Reserving all fish and game on the farm, with the sole right of

of fishing, fowling, and hunting, by himself, his gamekeepers, or others having his authority in writing; but always so as not to injure the land, fences, or any sown or planted crop, and being liable to make recompense for the same, at the arbitration of two neutral men mutually chosen.

6. Reserving power, if at any time the houses, fences, gates and drains on the farm shall be found in disrepair, to cause the same to be put in proper order, and to charge the tenant with the expense thereof, unless he (the tenant) shall execute such repairs within one month after being required so to do by a notice in writing.

III. The tack shall contain a clause of absolute warrandice by the proprietor, under the above conditions and reservations.

IV. The obligations by the tenant shall be to the following effect.

1. He shall become bound for payment of the stipulated rent, half of which is to be a fixed money rent, and the other half is the ascertained value of a certain quantity of wheat, barley and oats, or two of these, payable by the fiar prices, according to the average of the eight preceding years, for each of the first two years, and of the ten preceding years for each of the subsequent years' rents under the lease. This rent is to be paid to the proprietor, or his factor, at two terms in the year, Candlemas and Lammas. At the first of these terms the money rent shall be paid, with interest and penalty in case of failure, in common form, during the currency: And, in like manner, the part of the rent payable by the fiars' prices of victual shall be paid at Lammas, with interest and penalty, in common form. The last year's rent he shall be bound either to pay one month before his removal from the farm; or to find, one month before his removal, satisfactory security for payment thereof within six months after his term of removal, with interest and penalty in case of failure, as above.

2. The rents offered by intending tenants, which must be made in writing, are understood to be for the lands or farms to which they respectively refer, with the subsisting accommodations as to the houses and fences, open drains and water courses; but the landlord will expend a reasonable sum, afterwards to be settled between himself and intended tenants, on such repairs, and such additional houses and fences, as may be agreed on by them to be requisite for the possession, on the condition that the tenant shall engage to pay, of increased rent (rent higher than that contained in the original offer), at the rate of 6 *per cent.* on the landlord's outlay on such new or improved accommodations, and that half-yearly, along with his said rent, at the terms above specified,

commencing the payment of said additional rent at the first term after such buildings are completed, and the expense thereof ascertained. He is also to furnish and deliver yearly, between Christmas and Candlemas, a certain proportion of the whole victual stipend payable for the said lands to the minister of the parish of ; but to be allowed out of his rent, for the quantity of victual so delivered, a sum according to the fiars' prices of that crop; also to pay one half of the school salary payable to the schoolmaster of the said parish, without deduction; and likewise to perform all the services to the high and parish roads, exigible for the said farm annually, or to pay the conversion of the same when due, without allowance; and to perform his proportion of the carriages necessary for the building or repairing of the church, manse and offices, school, or schoolmaster's house.

3. Respecting the mode of culture, cropping, &c. these conditions to be inserted, viz.

The said obliges himself and his foresaids, that they shall adopt and observe, during the currency of the lease, the following mode of culture and cropping the said lands, viz. They shall not have, at one time, more than one half of the whole arable, and usually tilled lands, under a white crop, such as wheat, rye, barley, or oats; and, in no case, shall take more than two of such crops in close succession from the same ground, or without the intervention of a grass or herbage crop, or else a hoed crop of turnips, potatoes, or any other such hoed crop as may suit the situation, or else a summer fallow; which hoed crop, or fallow, shall be properly tilled and manured: And shall not have, during the last four years of the lease, two white or corn crops in close succession,—but only one such, alternately, with an herbage or a hoed crop, or a summer fallow, in his the tenant's option: And that, in regard to the management of the farm towards the end of the lease, they shall cultivate, properly, the following proportion of the usually tilled land, in the following manner, viz. In the third year before its termination, they shall cultivate, and have not less than one sixth part of these lands under a summer fallow, or some of the hoed crops before mentioned; and shall give them this said proportion full tillage, and a due supply of dung or putrescent manure. And, in the second year, shall have this sixth part under corn; and, along with such crop, shall furnish and sow in proper seeds for hay or pasture; which part shall not, afterwards, be ploughed or broken up by them: And they shall leave, at their removal, that grass crop to the landlord or incoming tenant, who shall pay for the same, at the arbitration of neutral men mutually chosen. As also, they shall have in the second year before the end of the lease, not less

than

than another ſixth part in ſummer fallow, or under a horſe hoed crop, to be properly dreſſed by tilling and manuring as above; which ſixth part ſhall be under corn, in the laſt year of the leaſe; and, along with this crop, graſs or herbage ſeeds, of a proper aſſortment and quality, ſhall be procured and ſown by the tenant, unleſs the proprietor ſhall give three months notice to the tenant, that he is himſelf to furniſh and ſow in the herbage ſeeds; and, in either caſe, the tenant ſhall properly harrow or cover in the ſame: But for the graſs or herbage ſeeds, ſown by the tenant in the laſt year, he ſhall be paid by the proprietor, or incoming tenant, at the arbitration of neutral men to be mutually choſen. And further, in the laſt year of the leaſe, they ſhall give one ploughing before Candlemas, to another ſixth part, for which ploughing they ſhall be paid at the rate of eight ſhillings Sterling per acre; and ſhall leave the land for fallow, or hoed crop, to the landlord or incoming tenant; but, for the ſame, they ſhall have deduction out of their laſt year's rent, at the rate of one ſixth thereof, if the farm ſhall be wholly arable; it being underſtood that the lands ſo left ſhall not be inferior in quality to the average value of the arable, or uſually tilled lands, on the farm; or, in the caſe of farms not wholly arable, at ſuch a rate, per acre, of abatement, as ſhall be ſettled by men mutually choſen by the parties; it being hereby declared, that the ſixth part, ſo ploughed and left in fallow, ſhall be of entire or cloſe fields. And further, the proprietor ſhall have right, without recompenſe, to ſow graſs ſeeds with all, or any, of the other white crops, in the laſt year of the leaſe; the tenant, and his foreſaids, being bound to harrow, or cover them in properly. And, further, the landlord ſhall have the option of purchaſing, at the arbitration of neutral men, mutually choſen, the corn and ſtraw of the laſt crop and year, on giving notice of this intention before the firſt of Auguſt, and becoming bound to pay its price, or account for it at the term of Martinmas following: And the ſaid tenant obliges himſelf, and his foreſaids, during the whole currency of the leaſe, to manage the farm in a proper huſbandman-like manner, for the mutual advantage of all parties; and, in order duly to ſuſtain its productiveneſs, not to ſell, or ſend from it, ſtraw, hay, turnips, potatoes, or any other ſpecies of produce, excepting corn, without obtaining previouſly the conſent of the proprietor, and being liable to produce, if required, ſatisfactory evidence, that he has elſewhere procured in lieu thereof, and has expended on the lands, in that, or the two preceding years, manure fully equivalent to what the articles ſo diſpoſed of would afford. It is alſo expreſsly ſtipulated and agreed to, that if the tenant ſhall depart from the regulations before ſpecified, as to the treatment and application of the lands, he and his foreſaids, in

that caſe, are bound hereby to pay the ſum of 10l. Sterling of additional rent for each acre treated or cropped differently from the mode before mentioned; which additional rent ſhall not be conſidered as penal, but as pactional; and which the ſaid hereby obliges himſelf and his foreſaids to pay to the ſaid and his foreſaids, at the ſame terms with the original rent of the year or years in which ſuch alteration takes place, with the like intereſt and penalty in caſe of failure: And for the purpoſe of aſcertaining the fact of any deviations being made in the before ſtipulated plan of culture and cropping, and the amount of the additional rent thereby due, the parties oblige themſelves to enter into a ſubmiſſion, within three months after the one ſhall be required in writing to do ſo by the other, to two neutral men mutually choſen; and the determination of ſuch arbiters ſhall be final. And the ſaid obliges himſelf and his foreſaids to leave the whole manure that ſhall be on the farm at the time of his removal; one half of the value of which, as the ſame ſhall be aſcertained by neutral men, the proprietor ſhall be bound to pay to the outgoing tenant.

4. The tack to have the following clauſes, viz.

Further, it is hereby declared, that if the tenant or ſubtenant, then in poſſeſſion of the farm, ſhall become bankrupt, or ſhall execute any truſt conveyance of his property for behoof of creditors, then, and in that caſe, this leaſe ſhall, at the option of the proprietor, be null and void, unleſs the tenant ſhall, within forty days after he is required by a notice in writing ſo to do, execute an aſſignation or ſubtack, or, if the proprietor chuſe, ſhall renounce to him for ſuch value as ſhall be aſcertained by arbiters mutually choſen. Moreover, the ſaid obliges himſelf and his foreſaids to furniſh the carriages of the whole materials that may be laid out on building or repairs on the premiſes, on being paid for the ſame at the arbitration of neutral men mutually choſen; and to maintain in good tenantable or habitable condition, and in proper repair, during the currency of the leaſe, the whole houſes, drains, or water-courſes, fences, and gates, on the ſaid farm, and to leave them in a proper ſtate of repair at his removal; or at leaſt, to keep and leave at his removal, all and each of the accommodations as to houſes, fences, gates, drains and water courſes on the ſaid farm, in equally good repair and condition as he ſhall receive them in at his entry thereto, or as they ſhall be in at any period during the currency of this leaſe; it being always underſtood that the whole of ſuch accommodations are in good and tenantable repair and condition, unleſs the contrary ſhall be ſpecially declared by a writing ſigned by the parties, and that

that the proprietor ſhall pay his proportion of the expenſe of maintaining ſuch fences as are required for new plantations, or lands reſumed as above mentioned; and alſo, the tenant to protect the trees planted or to be planted on the lands; and, failing his doing ſo, to indemnify the proprietor for any damage incurred by his fault or neglect, at the arbitration of neutral men; and likewiſe to repay to the proprietor all ſuch expenſes as he may have laid out, in virtue of the reſerved power before mentioned, in repairing ſuch houſes, drains or water courſes, fences and gates, and that from time to time as the ſame ſhall be incurred, on production of the tradeſmen or workmen's accounts or receipts, without further proof.

V. The tack may contain a clauſe reſpecting arbitration in the following terms.—" And in regard that, by this tack, ſeveral references are made to arbiters to be mutually choſen, and that inconvenience may ariſe from either of the parties refuſing or delaying to name an arbiter, or that ſuch arbiters may differ in opinion as to the matters referred to them; therefore, it is hereby ſpecially provided and agreed to by the parties, that in all caſes in which any difference ſhall ariſe, and about which it is hereby covenanted, reference ſhall be made to arbiters mutually choſen; then, and ſo often as ſuch event may occur, the parties bind and oblige themſelves to each other, that they ſhall enter into and ſubſcribe a regular, valid, and formal ſubmiſſion to arbiters, to be mutually choſen by them, with power to the arbiters to name an overſman, containing all clauſes uſual and neceſſary for rendering the ſaid ſubmiſſion and decreet-arbitral to follow thereon effectual; and in the event that either of them or their foreſaids ſhall refuſe or delay to name an arbiter on his part, for determining anent any of the matters herein contained which are made the ſubject of arbitration, within one month after being required in writing by the other party ſo to do, or that the parties ſhall not agree as to the arbiters, it ſhall be competent for either party to apply by petition to the Sheriff-depute, or his ſubſtitute, of the bounds for the time being, to nominate arbiters of ſkill and reſpectability for them; and which arbiters ſo named ſhall have the ſame powers as if they had been mutually choſen by the parties themſelves: And that, in all caſes where the arbiters, whether named by the parties themſelves or by the Sheriff, ſhall happen to differ in opinion as to the overſman to be named, it ſhall likewiſe be competent to both, or either of the parties, in the ſame manner, to apply to the Sheriff to nominate an overſman for that purpoſe, whoſe determination ſhall be final, and ſhall be equally binding on the parties, as if ſuch overſman had been named by the arbiters themſelves."

VI. An obligation on the tenant to remove from the poſſeſſion

at

at the expiry of the leafe, without any warning or proceſs of removing. And,

Laſtly, A mutual obligation on the parties to implement their reſpective obligations, under a penalty to be ſpecified, beſides performance; and a clauſe of regiſtration, in common form, to be inſerted in the tack.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks upon the Form of a Lease, drawn up by Andrew Steele, Esq., Clerk to the Signet.

SIR, *Glasgow, 27th June,* 1809.

I HAVE read over with some attention the draught of a lease by Mr Andrew Steele, clerk to the signet, inserted in the 38th Number of your Magazine; and as I cannot approve of some particulars, I beg leave to send you the remarks which occurred to me in the perusal of it.

I observe that Mr Steele has been cautious enough to insist upon a security, along with the principal tenant, for his regular payment of the rent, and performance of the other stipulations. This may be very prudent upon the part of the landlord; but it argues a want of confidence in the responsibility of the tenant. Now, were I a landed proprietor, I would have nothing to do with a tenant who could possibly, in the common and ordinary run of human affairs, even stand in need of a cautioner. This precaution is all that is necessary in matters of business, and, in fact, is all that is ever thought of by mercantile people in their transactions, who must be permitted, even by landlords, to be very competent judges. If more was attempted by them, in the way of precaution, trade would suffer greatly by a thousand useless provisions for what may in all human probability never happen.

Mr Steele deserves the thanks of the agricultural world, for presenting the form of a lease admitting of assignees and subtenants, although it be clogged with certain conditions. It is most agreeable, however, to every person who takes an interest in the real prosperity of this country, to see the general principle admitted, notwithstanding of its being yet in irons. I do not well comprehend the meaning of the first limitation of the general principle mentioned by your correspondent, namely, that the tenant 'shall not be allowed to assign or subset the lease, till he has been at least three years in possession of the same.' And it would have been

been as well, if he had taken the trouble of giving his reasons for this modification. I presume the restriction to be with the view of preventing the principal tenant from leaving the farm, until, by being three years in possession, he has laid out a considerable sum in its improvement. This, to be sure, is rather a circuitous way of accomplishing the end in view; for, instead of making the tenant expend a certain sum in meliorating the land, he is merely compelled to be stationary upon the farm for a limited time, trusting that this stay will produce the desired expenditure. If this be all that is wanted, the clause is either unnecessary or insufficient. The tenant, when he enters into possession, means either to remain in it for a considerable length of time at least, or to let it immediately, or at an early opportunity after his entry. If the first of these alternatives be his intention, then he will of course expend a considerable sum of money in improvements; and although he suddenly relinquishes the farm, the object of the landlord is accomplished without the assistance of the restriction in question. If the second be his intention, then he will not expend a single shilling upon meliorations, but patiently wait till the expiry of the three years, and then subset the farm; in which case, the object of the landlord is not accomplished. It appears, therefore, very plain, that, upon the supposition of its being the tenant's intention to occupy the lands permanently for a series of years, the restriction is unnecessary, because of his own accord he will perform what the clause would compel him to do. If the tenant, again, means to subset from the outset, the restriction is inefficient; because, all that it can do is to force him to continue on the land for the period of three years, without the ground being meliorated in the smallest degree. But the fact is, that if the tenant from the beginning means to subset, the event which is here proposed to be prevented never will happen at all; for your correspondent may be assured, that if the tenant be a man of common understanding, he will expend a considerable sum of money before letting it to another; just as some landlords are in the practice of improving ground at the present moment, by draining, enclosing, and otherwise, before bringing it to market.

I do not understand why the original tenant 'should not be allowed to assign or subset the farm after mentioned in portions, to be occupied by different persons, except as one farm, and for the whole remaining period of this lease, without the consent of the proprietor.' In a note, to be sure, a reason is given for this restriction. 'Middlemen and tacksmen, as they are called, in different places, are debarred here, because they are considered as oppressive to poor tenants.' Now I cannot see the force of this *ratio* for the restriction

striction in question; because the *one* person who happens to take the *whole* farm, and for the *full* period of the original lease, is as much a middleman, or tacksman, as *those persons* are supposed to be to whom *small* portions are let, and for a *shorter* period. For my part, I can see no difference in a landlord leasing the whole in a lump for a length of time to one person, and the same landlord letting the same lands in parts of a whole to a variety of persons, for a shorter term of endurance. The tenant is as much that vile character, called middleman, in the one case, as in the other. The subsetting of the land in this way, to a variety of small people, has a twofold effect; in the first place, of being beneficial, or the reverse, to the landlord; and in the second place, of being either the one or the other to the public, or the poor tenants, as they are called in the note. Had your correspondent made the restriction, because he considered the power hostile to the interest of the landlord, I would have given him credit for the honesty of his endeavours, even although he had been erroneous in point of doctrine. But I cannot help thinking it the very height of hypocrisy, to defend the restriction upon the score of the power not being hostile to the landlord, who alone has any concern in the matter, but because he is pleased to say middlemen are oppressive to a third party, who have no more interest in the land than the Man-in-the-moon. The apology savours too much of the sentimentalist, of the over religious, to meet with the approbation of your readers. But, in fact, what good will this restriction do for those poor tenants, as they are called? The original tenant either lets, or does not let, parts of the farm to these people. If he does, it is because these people apply to him for small portions; and they make the application, because it is their interest to do it; for they are under no obligation to speak to him upon the subject. If, again, it be their interest to take small lots of ground from the original tenant, Mr Steele, instead of consulting the comfort of these poor tenants, renders their miserable situation still worse, by preventing this partial subset; for these people, surely, would not take the ground, unless it was under the idea of bettering their situation in life. The truth of this proposition, although it has escaped Mr Steele, is, I should think, much too palpable to require further illustration. Over zealous people, however, are in general a little blind. If, again, the original tenant will not let portions of his farm to these poor people, then he makes their pitiable condition still worse, in the same way as the landlord would fain do, by preventing him from a partial subset. The truth is, that the original tenant would not have applied to the landlord for the farm, had it not been for his interest; and as little will small tenants bargain for

for parts of it, unless it be to make something of it. It is quite senseless to be crying out against that class of people called middlemen; for they are very useful in society, and form the intermediate link of the chain by which landlords and small tenants are connected. Instead of indulging in this idle sympathy for small tenants, why does not Mr Steele let the land to them in partial possessions, instead of giving the whole to one great tenant? This would be practising, by example, the theory that he preaches. The truth is, he finds it for his interest to let the whole 500 acres, we shall suppose, to one person; and, in the name of common sense and common honesty, why will he not allow the principal tenant to let out the whole in small portions for *his* interest? It is a miserable picture of the human understanding, to hear the cry of late years against middlemen, as they are called, as if the concerns of this world could get on without their assistance. The fact is, this class of people spring up from the wants of society; and, instead of being injurious, are for that simple reason in the highest degree useful. They are the means of diffusing, through all the relations of society, the comforts of life in the cheapest way. Why therefore should they be the object of our daily persecution?

Conceiving, as I do, that the tenant should be upon an equal footing with the landlord during the continuance of the lease, I cannot approve of the modification of the power of subsetting, by which 'the proprietor shall be preferred, if he chooses to have the possession, to any assignee or subtenant, on equal terms; and the tenant shall therefore be obliged to make him the first offer of the said lease; and for preventing collusion in this matter, the proprietor may insist that the terms of a renunciation to himself of the lease be adjusted by mutual arbiters.' It is very obvious, that the obligation to renounce in favour of the landlord is imperative upon the tenant, and the acceptance of the possible abandonment of the tack is optional to the landlord. But why this inequality? The landlord, in parting with his land for nineteen years, has got, or may have got, a rent equivalent to its value; we shall suppose 100*l.* a year. But, upon the principle of the above clause, the landlord may as well take the tenant bound to pay him 150*l.* a year, which is more than the land is worth. The proprietor pretends to demand back the farm upon the same terms only as any indifferent person might get it for; and, in the same breath, he compels the tenant to make him the first offer. But does not your correspondent perceive, that the circumstance of the tenant being bound to make the first offer to the landlord, is a departure from this equality of terms? For, were the tack brought to a public market, there would be no occasion to ask a price

price at all; but offers might be received for it, in the same way as landlords are in the practice of doing at present. If the landlord be to ask only equal terms with any other person, he need ask nothing; because, as no other human being can insist upon an offer being made him, he is, without opening his mouth, upon the self-same terms with all the world. No third party can insist upon the original tenant referring the value of his tack to arbiters; and, therefore, if the landlord is to have the privilege of making this demand, he stands upon a better footing than others. The landlord pretends to be very modest, but is, in fact, vastly more impudent than other people.

I regret exceedingly, that in the draught of a lease, which must be supposed to be intended as a kind of general law upon the subject, the short period of fifteen years should be mentioned as the term of its endurance. That this period, short as it is, may be of a sufficient length in some cases, is very true; but, in the generality, it is much too limited, either for the interest of the landlord or tenant. The period of nineteen years ought to be considered as the general rule, and, as such, to have been mentioned in the lease in question; while fifteen years, or any smaller number, ought to be the exception to that rule. Some landlords are, I know, in the practice, at present, of granting very short leases, perhaps of seven and ten years only; but how far they judge wisely, a little time will determine. Perhaps, if a farm be completely enclosed, thoroughly drained, and in full heart, the period of fifteen years may be long enough; but such an instance is *rara avis in terra*. The fact is, the landlord suffers directly by too long a lease; and he will suffer as really and truly, but indirectly, by too short a one. Both extremes are to be guarded against, as equally injurious to the landlord, but in two different ways.

It is very proper in the landlord reserving power to work the minerals in the lands, and to make roads, &c. for the purpose of carrying on his operations; but I think, for the reasons stated in my remarks upon a former draught of a lease, that the damage in general, without the epithet 'surface,' should be left to the consideration of the arbiters. If the *maximum* of the damage, too, is to be referred to arbitration, why should not also the *minimum*? There seems to be no good reason for supposing these people should not be as good judges of the one as of the other, and equally capable, in both cases, of doing perfect justice to the parties concerned. Such a distinction, therefore, as being unnecessary, ought to be expunged; for it is certainly desirable to have the lease as short and simple as possible.

I should be much better pleased were landlords to take the trouble

trouble of looking a little into futurity, and, before letting a farm, would enclose it to the necessary extent. If they would follow my advice in this particular, the clause in relation to the payment of 6 *per cent.*, or repayment of the value of the fences, would be quite needless. Landlords, however, must be taken as they are; and since they will not, in every case, make the fences before the entry of the tenant, it is well that they do the thing at all. The alternative mode of reimbursing the landlord or tenant, in the event of the one or the other advancing the money, seems to be very fair.

It may be very right for the landlord to reserve liberty to plant, and enclose, for that purpose, such parts of his farm as he shall think proper; but I cannot agree with Mr Steele, that the fences of the enclosure should be 'kept in good repair by the proprietor and tenant jointly.' The plantations are made wholly for the ultimate benefit of the landlord; and, therefore, all expenses attending the rearing of them ought to be at his debit. The landlord might as well take the tenant bound to be at one half of the expense of the trees themselves, and of planting them, as that of rearing them. In the one expense, it is the expense of their birth, and, in the other, that of their education: and in what consists the difference between the two, in point of principle?

Very bloody damages are thundered against the poor tenant, for the purpose of frightening him into taking care of the young planting; but the noise will not have the smallest effect. No one man upon earth can compel another to take that charge of a thing which belongs to the first, as he himself would wish. If the landlord, instead of this compulsory law, would give the tenant an interest in the plantations themselves, by allowing him a percentage on their value at the end of the lease, the clause in question would be totally unnecessary. It is rather a wide way of speaking, to say that a tenant shall be liable in damages for *every injury which could possibly be prevented;* for how is this possibility to be determined for or against the tenant? Nothing short of a proof can settle this possibility; and there will very probably be an appeal to the arbiters once a year. For my part, I would not be a tenant for half rent upon such terms; as, in the event of my landlord being troublesome, I should be vexed to death long before the expiry of the tack.

I remarked at considerable length, in a former paper, upon the extreme hardship of the clause vacating the lease, in the event of a tenant becoming bankrupt; and that I was more than doubtful if it would be supported in a court of law against third parties. In this lease, we have the same clause, to the extent of vacating the lease; but then the severity of the general principle is tempered

pered by an after explanation. The tenant is to be allowed sixty days to execute an assignation of the lease, for such value as shall be settled by arbiters, by which this very obnoxious clause is left almost without a ground of objection. By this mode of settlement, the serpent is divested of its sting.

I approve highly of the clause which says, that the tenant 'shall not, during the currency of the lease, have two white or culmiferous crops running;' because I believe, in that simple principle almost the whole of good farming consists. But, after this prohibition, it was surely unnecessary to add, that the tenant 'shall labour, cultivate and manure the said lands in a husbandman-like manner;' because, if a white and green crop are to follow each other alternately, the tenant must in fact do what he is here meant to be compelled to perform. Besides, 'husbandman-like manner' is too vague a phrase, and a fact, too, upon which a thousand contrary opinions may be entertained. The after mode of rotation specified in the tack, I confess I do not understand; and, until it be explained, I can neither praise nor blame it. It is a pity, however, that a writing which is intended to explain the meaning of parties, should itself stand in need of a glossary.

I would have been glad, had the landlord paid the minister's stipend and schoolmaster's salary himself; for, independent of the trouble of the collection of trifles to these two classes of men, it seems to be but fair to make the permanent interest bear the contingent burdens.

I have nothing further to say, but that I think your readers are indebted to Mr Steele for the draught of the lease he has been pleased to present to their notice. It is, as I have shown, not altogether perfect; but I am confident there are a thousand worse in daily practice. I am yours, &c.

A Constant Reader.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to the Strictures of Agricola Tertius, p. 18. *No.* 37.

Sir,

If any thing could add to the satisfaction felt from having procured a discussion upon a subject of the first importance to the agricultural interest, it is, that the draught of a lease which I ventured to criticize has met with an able protector. Having already given my opinion upon the different clauses in that lease, I shall now, with all deference, offer a short reply to the author of the strictures upon my former communication.

Without recalling one sentence of my first letter, or shrinking from

from any trial, judicial or extrajudicial, upon the *facts* therein stated, I beg leave to repeat my former declaration, that I have no interest at stake upon the lease in question; and further, that I am nowise connected with any individual, high or low, who either is now, or ever was, to my knowledge, concerned upon that estate; nor would I offer courtesy at the expense of truth, for thanks from any man: and although Agricola Tertius, in your opinion, may be of high authority, yet, had your correspondents been left to their own discernment, I am not certain but a different notion might have prevailed. From the liberty he has taken in converting my sentiments into such shape as might suit the conclusions he wished to draw, I am disposed to estimate the strictures as not proceeding from an impartial observer.

Agricola Tertius says, (p. 19.), 'If J. B——k was suspected as having never been either an incoming or outgoing tenant, it would have been better said in one word, that he had never been a tenant in any shape.' Had the gentleman been right in the principle, I should have thanked him for his epitome. He may know what is understood by incoming and outgoing tenants, but seems to be unacquainted with that class of tenantry who, succeeding to their forefathers, have, for many generations, continued to occupy the same lands. With respect to such, old leases no doubt have expired, and new ones commenced; but the character of incoming and outgoing tenant could be recognized only in one and the same person. Indeed, estates might be pointed out in Scotland, as well as in England, where more than seven eighths of the tenants never had an opportunity to experience what may be felt by an incoming or outgoing tenant; and, for ought I *ken*, Mr J. B——k may be an experienced tenant of this class. Agricola Tertius is not certain but that I too am engaged in the labour of the ground enjoyed by my forefathers; for he could not be informed that I knew nothing about the matter; and had he offered a challenge to try my knowledge as a practical farmer, I should have felt less diffidence in competing with him between the hilts of a plough, than on paper.

It is the duty of every writer to endeavour to form just and correct notions of the subject on which he would impart his opinion to others. The argument of Agricola Tertius in support of tenants being taken bound in the carriage of materials for the buildings, carries alongst with it its own refutation; for, while he admits this to be a heavy article in the charge of buildings, he at the same time affirms, that a tenant will rather agree to expend the capital himself in this way, than submit to the percentage. This may be the philosophy of Agricola Tertius, but can never be the policy of an experienced farmer.

The first question put (p. 22), and with the same imperative authority as if by a Judge on the Bench, was not authorised by any thing I had said. Why ask me for my informer? I did not give my offerings as the opinion of others; I did not build my opinion on the *conte-fable* of any body; nor did I say that any general rule should be established as to the extent or measurement of every farm. I suppose the gentleman alludes to what occurs in the second paragraph, p. 468. of my observations, and which requires no explanation, when offered as an answer to the question. In the second question, with the same imperative authority as in the first, he demands of me, 'by whom I was told that the payment of 6 *per cent.* on improvements was a barrier in the way of agriculture.' Had I not known it before, and had I not assigned some reasons for it in the same paragraph in which I said so, I might have answered, that the *grandson* of *Agricola* the *first* has told us, that a tenant had better do the work himself; that he had better sink the capital than pay the percentage.

In offering a few observations to the Conductor of a periodical work, it is not, I believe, expected that the author should enter into an elaborate discussion; and, under that impression, my remarks upon the lease, offered to the public through the medium of the Farmer's Magazine, were submitted to you. In speaking of the meliorations upon land, having said that drainage yields the most immediate return, and having noticed that that beneficial improvement was not included in the lease, Agricola Tertius, (p. 25.), as if the omission had been imputable to himself, to lessen its consideration, has been pleased to rank me with the meanest farmers in Dumfries-shire. In giving that information, had I said that it was as well understood and judiciously recommended by Cato and others in former times, in the same spirit of degradation, the gentleman might have placed me among the antients. The astonishment expressed by Agricola Tertius at not finding something new as to planting, might have been suspended, until I had had time to perform my promise upon that head. As to the *delectus personæ* so much insisted for by Agricola Tertius, without infringing upon that right, a very different construction from that now countenanced might be offered. The letter of the law does not always agree with the spirit of the law. In the contract betwixt landlord and tenant, for the period agreed upon, the parties acting upon the faith that the lease is to endure for that time, the landlord's expectations (and they should not be disappointed) are, that the lands are to be possessed by the tenant contracting with him, or by one equally well qualified. Now, upon this principle, his heir, whether of line or of destination, ought not to be admitted to the actual possession, more than his

his creditors, unless gifted with the proper qualifications for occupying the farm; for, as a right inherent in them from the original contract, in the spirit of the law, I should hold that the *delectus personæ* exercised in the choice of the first tenant would be continued in electing his successor, as suggested by me in my former letter. Though much might be said upon this head, yet, having offered my opinion formerly, I will not trespass further in this reply. Allow me only to express my regret, that the foot-note alluded to by the Conductor should have been considered as pointing at any law agent *individually*. I certainly neither had cause nor inclination to offend the gentleman whom the Conductor had in his eye; but still the justness of my observation must be held beyond the possibility of dispute; for a hundred instances, nowise under the controul of that gentleman, might have been cited to bear me out in the observation made in that foot-note.

May I make a digression, and, while in great company, whisper to my friend Mr J. B——k, that not having objected to the practice proposed, of remitting to tradesmen to report upon the state of houses, &c. on a farm at the tenant's removal, (if that was the essential part of his proposition), he is most undoubtedly entitled to a further hearing; and, in discussing this point, which is an essential one indeed, may I beg of him to hold it as my opinion, that the clause is a good one, but that it would have been proper to have accompanied it with some such understanding clause, that a like visitation and report should be made at the entry of the tenant. I am yours, &c. X. S.

[THAT important national undertaking, the CALEDONIAN CANAL, having much attracted public notice for some years past, it occurred that our readers would receive with pleasure the Sixth Report of the Commissioners appointed to carry on that magnificent work, which is drawn up in a very perspicuous manner. It is to be hoped that the Canal will afford that assistance to the trade and agriculture of the country fondly expected: but whether original expectations are or are not realized in the first instance, we are clear that the public money could not have been better expended; and that ultimately, when the Northern districts are further improved, incalculable benefits must be derived by the people in consequence of this meritorious undertaking.]

FOR THE FARMER'S MAGAZINE.

Sixth Report of the Commissioners for making and maintaining the Caledonian Canal.

THE steady progress of the different works necessary in forming an inland navigation, of dimensions so unusual as the Caledonian Canal, has evinced the prudence and foresight of the arrangements which were at first established by our engineer Mr Telford, and the punctual observance of his regulations by the superintendants employed under him; so that in making this our Sixth annual report to Parliament, we have no unexpected occurrences to relate, and we shall proceed in the usual order of matters, with such observations as we are enabled to make upon the increasing extent of the several works already finished, and those now in operation.

Labour.—Our expenditure on labour has been in some degree checked, by the extraordinary augmentation of the price of timber, which has rendered it prudent, with a view of purchasing a large quantity of that material, which is become necessary for the works at the south-west end of the Canal, to diminish our expenses under other heads. The monthly lists of workmen, which are useful as showing the particular application of labour throughout the year, give an average of eight hundred and twenty-five, being an increase of sixty in number beyond the average of the preceding twelvemonth, which was seven hundred and sixty-five; and the sum expended in labour has increased in nearly the same proportion from thirty-six thousand to thirty-nine thousand pounds. This increase appears to have been applied entirely to masonry; and the progress of lock-building has accordingly been such, as to enable us to take a satisfactory review of that large branch of our present and future expenditure.

Materials.—The Quarries, which were originally established at a considerable expense, have cost nothing extraordinary since our last report. That at Fassefern, upon the western branch of Loch Eil, continues to produce excellent stone for facing the locks, and rather improves in quality as the quarry becomes deeper. On the rising ground above Corpach moss, quarries have been opened for supplying rubble stone for the great chain of locks, which will raise the Canal to the level of Loch Lochie. The stone produced from these quarries is better than was at first expected, though rather more expensive, partly from the necessity of removing an unusual quantity of rubbish, and partly from the cost of gunpowder for blasting the rock. The limestone from Lismore continues excellent, and a large stock of it is now lying

at

he kilns near Corpach, where it is burnt into lime. No free-
ıe has been discovered nearer than Cumbraes, and the small
ntity requisite is fetched from thence by the two sloops which
'e built chiefly for that purpose. The quarries at Redcastle
Clachnaharry supply the masonry at the east end of the Ca-
. The first of them is now furnished with a convenient pier,
dering it accessible every tide, and which will be a permanent
efit to the proprietor and the public; but the freestone is pro-
ed at a greater expense than at first, as having become some-
ıt mixed with coarser stone, which it is necessary to remove.
ɜ quarry at Clachnaharry, distant about a mile from the Muir-
'n locks, continues to produce abundance of rubble stone for
:rior purposes, at an easy expense. During the last year we
e purchased cast-iron work principally at the Foundery which
been recently established at Inverness, and which furnishes
t article of an excellent mould and quality, for the maintenance
occasional extension of the rail-ways near Clachnaharry. Of
mel crown timber, a large quantity, being part of our first
chase, still remains in store at Clachnaharry; and we have laid
a stock of ash timber at the other end of the Canal, where it
l soon be necessary to incur a serious expense in American
:h pine timber; but this is delayed in expectation of a reduc-
ı of price in that article.

State of the Works.—Clachnaharry district.—The inspection of
works last autumn by Messrs Jessop and Telford, has given
to a considerable alteration in the intended mode of construct-
the sea-lock at the north-east end of the Canal. It appeared
t the extensive sea-mounds which it was necessary to carry
to the distance of three hundred yards beyond high water
:k, for the purpose of obtaining a sufficient depth of water at
entrance of the Canal, had settled so much as to require an
itional quantity of earth to restore them to their former level;
; was to be expected in a certain degree, but a further consi-
ation suggested itself on this occasion; that the sea-lock, if
lt in the usual manner on a space surrounded by a Cofferdam,
he extremity of these mounds, might subside in like manner,
in consequence become productive of serious difficulty and
ense. This apprehension, in conjunction with the high price
timber, which had already delayed the commencement of the
:nded Cofferdam, determined Messrs Jessop and Telford to
fer a simpler but more secure mode of proceeding, by carry-
out a large quantity of rubbish from the Clachnaharry quar-
so as to form a solid mass on the site of the intended lock;
when sufficiently settled, to dig in it a lock-pit, and proceed
he usual manner, confining the use of the Cofferdam to the

outer end of the lock. The two sea mounds have been accordingly extended, the western mound about sixty yards, the other to half that length further than before; and the inner slopes already begin to meet, and cover part of the space where the lock is to be placed. The whole will be a work of considerable labour; and time must be allowed for the weight of the earth to have its full effect: but there are obvious reasons for preferring such expenditure on labour to that on timber, especially at its present exorbitant price. The second, or Clachnaharry lock, has now remained some time in a finished state; and the mortar in the joints has not been in the least affected by the severe frosts of last winter, which proves it to be of a quality suitable to the climate. The oblong bason at Muirtown about twenty acres in area, extends from this lock to the Muirtown bridge, of which the masonry is ready to receive the swivel bridge when necessary. At this place commences the Muirtown chain of locks, of which two are finished with their copings; the next wants only five feet of its height; and of the last or uppermost, the inverted arch, the side walls to the height of five feet, and the forebay, are constructed; so that work more than fully equal to three complete locks is already done. The four locks will all be finished in the present season. The rail-ways extending from Clachnaharry quarry to the sea mounds, and also to the Muirtown locks, have been maintained in excellent condition; otherwise these works could not have proceeded with so much effect. The banks of the Canal through the lands of Muirtown, Kinmylies, and Bught, are now completed: at the latter place they have been formed by means of earth removed from the slope of Torvaine, in order to make a public road there immediately above the Canal. This road is carried along a benching on the side of the hill; and the earth which now remains to be removed will be carried across the Canal to strengthen the artificial bank which separates it from the river Ness at the foot of Torvaine. From Torvaine to the Bleachfield, the Canal was long since completed; and it is more than half finished along the moor of Donanchroy as far as Moulindour, otherwise called the Mill of Dunain. By means of the Clachnaharry lock and the four locks at Muirtown, the Canal will be raised to a level with Loch Ness, when the water is low in the lake; but when its surface is raised by rain, or by a sudden thaw, a regulating lock must be used; (the surface of the water in Loch Ness has been known to vary eight feet in height); and this will be constructed between Moulindour and Dochfour Loch, together with a weir across the river Ness. Westward of this it will be necessary to form a towing path, and perhaps to deepen the bed of the river Ness and of Dochfour Loch, to complete the

access to Loch Ness. After the present season, when the Muirtown locks are all finished, the attention of the Superintendant, and of the rest of our establishment at Clachnaharry, will be chiefly directed to these operations, until the sea mound shall be ready to receive the entrance lock.

Glengary district.—In our last report we stated, that an establishment in the middle or Glengary district of the Canal, was incompatible with the scale of our expenditure; nor can we in justice to the public recede from this opinion, founded as it is on considerations of prudence and economy, whatever satisfaction we might derive from yielding to the repeated requests of the inhabitants, who naturally wish for employment in their own immediate neighbourhood; an advantage which they cannot fail to obtain to the full extent of their desires in the future progress of the work.

Corpach district.—The excavation of the Canal has not yet reached nearer to Loch Lochie than a mile and a half; nor has the weir or overfall projected at Moy been yet executed, as not being necessary till the Canal is in greater forwardness. Between the burn or brook of Moy and the river Loy, the excavation has not proceeded, during the last season, with so much exertion as was desired and expected; and remonstrances upon this subject have been made to the contractors there, who allege the late scarcity of oatmeal in excuse. The several aqueducts of Loy, Muirshearlich, Shangan, Upper Banavie, and Lower Banavie, all described in our former reports, are now finished and in use. Their dimensions are much more ample than at first was intended, that these five aqueducts might save the cost and prevent the inconvenience of as many bridges, by serving the purpose of passages under the Canal for carts and cattle; and the expense has consequently been increased beyond the estimate, in proportion to their enlarged dimensions, from three thousand eight hundred, to nine thousand two hundred pounds; but this excess of five thousand four hundred pounds is more than compensated by saving five bridges, estimated at fifteen hundred pounds each. The masonry of these aqueducts has been found to sustain the frost of two severe winters without injury. Between Shangan Burn and Upper Banavie, the ground is opened along the entire line; and from Upper to Lower Banavie, the banks of the Canal are completed. On Corpach moss, part of the bottoming and upper bank remains to be done. In this district, the great object of attention is the chain of eight locks, to be placed on the rising ground above Corpach moss; and which will be the largest mass of masonry ever yet constructed for such a purpose. It is therefore with particular satisfaction that we are enabled to state the favourable pro-

gress of this great work, the masonry of which was commenced in October 1807; and in May 1808, three fourths of the lowermost lock was reported to be finished. Since that time, the exertions of Messrs Simpson and Wilson, the masonry contractors, have been so steady and effectual, that three locks are finished, and equal to two thirds of another. This progress is beyond our expectation, which was limited to two locks in a year. At the present rate of exertion, the whole chain would be completed within three years of its commencement. We have an additional source of satisfaction in being now enabled to foresee, with a considerable degree of certainty, the amount of expenditure on a large number of the locks, which formed the heaviest article in the original estimate, and have since been enlarged in all their dimensions. In the evidence given before the Committee of the House of Commons, which recommended the Caledonian Canal to be undertaken, Mr Jessop expressed an opinion, that the locks would cost ten thousand pounds each; and Mr Rennie, an engineer of equal eminence, estimated the locks at fourteen thousand pounds each, he having actually built one at Great Grimsby in Lincolnshire, which cost this large sum, though less than the locks on the Caledonian Canal by thirty-four feet in length, and by four feet in breadth. Subsequently Mr Jessop, upon a deliberate view of the whole course of the Caledonian Canal, and after sufficient inquiries into the price of labour and materials, found reason to lower his estimate to seven thousand four hundred and forty-nine pounds; and afterwards, upon the increase of dimensions, and including the digging of the lock-pits and other spade-work, the estimate became eight thousand and eighty-eight pounds for each lock. So soon as a single lock at Clachnaharry and two locks at Corpach were finished, we caused an investigation into the expense to be instituted by means of our abstracted account, and found that the three locks had cost about twenty-two thousand pounds, being considerably less than the estimated expense. From a similar investigation respecting the nine locks now actually finished, we have the satisfaction to infer, that the cost of the fifteen locks first to be made, will not much exceed one hundred thousand pounds, being a reduction of twenty thousand pounds upon Mr Jessop's estimate: but as the principal cause of this reduction of expense will result from the junction of the locks at Muirtown and at Corpach moss, which is not practicable to the same extent with respect to the residue of the locks, being twelve in number (including the two regulating locks) it is not to be be expected that they can be constructed for less than the estimated sum of eight thousand and eighty-eight pounds each, making, in all, an expense of about two hundred thousand

ısand pounds for locks upon the whole line of the Caledonian
al. The construction of the Cofferdam, an operation neces-
ly dependent in a great degree on calm weather, has been re-
ed by the storms, which continued much later than usual in the
ıent year. It would now be imprudent to commence the tide-
: till next spring, as it would be exposed to unnecessary danger
ess completed in one season; in the mean time the embank-
ıt and Cofferdam will be prepared for its reception.

Purchase of Land.—Soon after the date of our laſt report, Mr
ınt of Bught thought proper to accept the price offered for the
l taken at Torvaine, for the purpoſes of the Canal; and two
dred and fifty-eight pounds have been paid to him accordingly.
e deceaſe of Mr Grant of Redcaſtle, and the illneſs of Mr
ɔrge Brown of Elgin, have prevented us from ſettling the rent
:he freeſtone quarry at Redcaſtle, though we have been deſir-
to expedite ſuch ſettlement as ſoon as poſſible.

Roads.—The new road from Loch-na-Gaul to Fort-William,
r almoſt completed, croſſes the Caledonian Canal on Corpach
s, immediately below the chain of locks. At this place, the
nded line of road from Corpach moſs to Loch Lochie com-
ıces; and, in November laſt, was examined by Mr Telford,
ɔmpanied by Mr Duncombe, the ſurveyor who made the eſti-
e, and Mr Simpſon, who was then in treaty to become our
:ontractor for making that road at the eſtimated expenſe. On
occaſion an omiſſion in the eſtimate was diſcovered, amount-
to four hundred and forty pounds; certain embankments ne-
ary for carrying the road acroſs deep dingles not having been
iced. Hereupon Mr Telford was directed to make a new ap-
tionment of the whole eſtimate, now augmented to five thou-
l one hundred and ſeventy-eight pounds; and of this augment-
eſtimate, he was of opinion that we ought to pay eleven hun-
d and ſixty pounds, inſtead of nine hundred and forty pounds,
nentioned in our laſt report. We underſtand that Colonel Ca-
:on of Locheil, the contributor to this road, has intimated to
Commiſſioners for Highland Roads and Bridges, his wiſh to
lertake the contract for the northern part of it, from the burn
Culroſs to Clunes and Auchnacarrie, and that his offer has
n accepted. Our contract, therefore, extends no further than
he burn of Culroſs; and, as our propoſal to make this road a-
: merely from a deſire to prevent the interference of workmen
ler different employers, we deemed it adviſeable to effect that
ect by propoſing to Meſſrs Simpſon and Wilſon, the maſonry
tractors, to become our ſubcontractors for making this road;
they have accordingly undertaken ſo much of it as has been
tted to us, at the eſtimated price of four thouſand two hundred
and

and thirty-six pounds, we having previously signed a contract with the Commissioners for Highland Roads and Bridges to the same effect. Messrs Simpson and Wilson have engaged to complete this road on or before the 1st November 1810; but we have reason to suppose that they will finish it much sooner, about three miles in length having been already formed, and fifty men being at present employed upon it. The length of this road, from its junction with the Loch-na-Gaul road, on Corpach moss, to the burn of Culross, is seven miles and a half, and our contract includes also the bridges on Locheil's part of the road.

Accounts.—In arranging our money transactions, and settling our accounts, we have acted on the persuasion that, in justice equally to the public, and to the persons whom we employ, it is incumbent on us to proceed with vigilance and promptitude; so that we have not deviated in any point from the arrangements and plan of checks described in our second report. The monthly bills when paid, are transmitted from Clachnaharry and Corpach, certified by the respective superintendants, and accompanied by a letter from Mr Telford, containing an estimate of the next monthly payment, as compared with his balance in hand, whereupon an adequate sum is written over to the credit of his account at Messrs Hoares, on whom he draws bills at thirty days after date; that being the usual premium allowed at Inverness for bills payable in London. The vouchers are examined and approved on the spot half-yearly by Mr Telford, who then brings them from Scotland. At the present time, we have received the vouchers to the 15th October last, to which time they have been examined and passed by our accountant. Mr Telford is now on the line of the Canal, and will bring with him, at his return, the vouchers to the end of April last, these being the appointed periods of his half-yearly inspections of the progress of the works. A cash-account of our own receipts and payments to May 1806, has been passed at the Treasury; and we are preparing to transmit a further account, extending to the 31st December last. Subjoined to the present report, is an account in the usual form, carried on to the beginning of the present May; by which it appears, that we have received from his Majesty's Exchequer, and as interest on Exchequer bills, adding thereto certain small receipts at Corpach, the sum of nearly two hundred and fifty thousand pounds; of which has been expended nearly two hundred and forty thousand pounds, leaving above ten thousand pounds now at our disposal; besides which, a moiety of the last year's grant is due to us from his Majesty's Exchequer; and the sum of fifty thousand pounds has been already granted by Parliament in the present session.

27*th May*, 1809.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Mr Lawrie.

SIR,

I AM extremely ſorry to perceive, that the Hints reſpecting the improvement of the Highlands, which I did myſelf the honour of ſending to Sir John Sinclair from the Weſt Indies, and which were publiſhed in the 33d Number of your Magazine, have given ſo much offence to one of your *conſtant readers* in this city. I can aſſure you, that, when I wrote theſe Hints, nothing could be more remote from my intention, than to offend or injure any individual whatever. As this gentleman ſeems to be much affected, it appears to me that ſome ſecret ſpring in his temper has been unhappily touched. He regrets taking up room in your Magazine; and yet three fourths of his letters are devoted to trifling criticiſms, all of which (though they were better founded than they are) might have been ſpared. The very firſt paragraph of the letter before him having ſtated the difficulties and inconveniences under which it was written, and the views with which it was publiſhed, ſo diſtinctly, it is really aſtoniſhing ſuch criticiſms ſhould have been attempted.

Permit me, on my part, to remark, that if your other conſtant readers pay no more attention to your communications than this gentleman has done to the ſubject on which he profeſſes to write, they will not be greatly improved by them. He has, indeed, cut out certain morſels from my letter, and placed theſe by way of motto before him. Upon certain ideas contained in theſe, he no doubt deſcants critically and dogmatically enough; but the leading points—the improvement of the Highlands—and the employment of the expatriated Highlanders, occupy very little of his attention. He is content to run down the Hints before him in any way; and, like one, whoſe iraſcible faculty has been overpowered, to ſcout every idea that is preſented to his notice. For his many well turned compliments, I muſt acknowledge myſelf his debtor; and I cannot but regret, that, by *omitting to give me his address*, I am deprived of the pleaſure of making this acknowledgement in perſon.

Waving, however, such levities, which ill become a subject of such importance, it is evident your correspondent has done me two pieces of service, of which, perhaps, he was not aware. First, he has brought again, under the public notice, a subject in which the community cannot but be deeply interested; and, secondly, he has called my attention to certain deficiences in my former communication, which, as they seem to me to be of importance

portance in agricultural polity, I shall, with your leave, make up in the best manner I can.

I regret that it should be necessary for me to begin with adverting to the point which seems to have affected your correspondent so much, I mean, the character of the Highlander. He compliments me with being a Highlander; and, with great condescension, apologizes to the public in a manner sufficiently dignified and philosophical, for my blind partiality to that class of people, by ascribing it to that *esprit de corps* which is peculiar to all rude characters.

Your correspondent, I hope, will excuse my observing, that this *esprit de corps* displays itself no less in its antipathies than in its predilections; and, though he does not seem conscious of it, his Lowland clannishness is as manifest as he supposes my Highland clannishness to be. The truth is, that the *esprit de corps*, or partiality for one's own countrymen, or one's own peculiar classification of connexions, whether founded on complexion, language, or any other circumstance, is an active principle of great utility,—it promotes good affections,—gives a stimulus to good actions,—and restrains bad and dangerous propensities. Those who would expunge this efficient principle from the list of virtues, and substitute in its stead a lifeless complacency for all mankind, may succeed in destroying the utility of that principle; but they generally retain its discordant qualities.

I am very far, however, from feeling that blind attachment to the Highlanders which your correspondent supposes. Their pride and vanity I detest as much as any man; and I think I would be the last who would wish to increase it; but still, it must be admitted, that it is not without its uses. I happened to be in Inverness-shire during the disturbances occasioned by the Canadian Highlanders, as they were called, and witnessed some of the agitations that were occasioned by that circumstance; but I must say, that I never saw personal pride allayed by sentiments more noble. The critical situation of the country, the arduous exertions, and the great sacrifices making by Government, and by all ranks in the community in the general cause of Christendom, and the confidence which all parties had in the bravery and loyalty of the Highlanders; and, above all, the proof of the public attachment to their interests, which the formation of the great Canal, and other improvements exhibited, operated powerfully on their unsophisticated minds; and, not unfrequently, not only removed their animosity, but induced individuals to betake themselves to the army, in order to give effect to their patriotic sentiments.

I

I am ready to admit, that, when I wrote these Hints, I might be somewhat influenced by the temper that I had witnessed in the neighbourhood of Cork which I had then just left. In place of that deference to virtuous and manly feeling which every where displays itself in the Highlands, a kind of prostrate vulgarity, that trifles with every thing serious and decent, was constantly before my eyes. An Irish peasant can, at times, make himself agreeable and serviceable to you; but it is only in order to obtain some favourite object. That interchange of cordiality and respectful intercourse, which a Highlander feels as a reward for almost any service, and, without which, the reward that you may bestow, seems to degrade him in his own estimation, are here no where to be found. When one fixes his eyes steadily on this contrast, and knows, that the one race of men, amidst indignities and misfortunes, have uniformly been found among the most loyal and deserving; and that the other, with more advantages than they have faculties to enjoy, are constantly arranged along with the criminal and seditious, it is impossible to regard the captious exceptions of your correspondent otherwise, than as subjects thrown out for the purpose of blunting the effect that the known character and situation of the Highlanders must produce.

I strongly suspect, however, that the difference betwixt your correspondent, and all those who have the same views with him and me, does not lye in the facts, but in the importance that we attach to these facts. In order that such people may see the conclusions to which their principles tend, I shall use the freedom of transcribing, for their use, the description which a very intelligent and respectable magistrate gives of more than three fourths of the remaining inhabitants of this island.

Dr Colquhoun, in his view of the habits and manners of the labouring poor, p. 234, says, 'In the metropolis, and in all the cities and towns where the population is extensive, it is greatly to be lamented, that a large proportion of the working classes are improvident, careless, unthinking, and dissolute in their manners. Many of those whose skill and ingenuity in mechanical employments would soon raise them to a state of independence, from the high wages they obtain, frequently spend a large portion of their time in corrupting their minds, and enfeebling their bodies, in alehouses, trusting to the earnings of three or four days of the week, not only as a source of maintenance to their families, but as a fund sufficient to defray the still greater expense incurred at the alehouse. Instead of enjoying those comforts which are completely within their reach, their children often remain ragged and uneducated; and misery and wretchedness are frequently seen in their dwellings.

'Among

'Among the classes whose labour is less productive, requiring a more constant and uninterrupted attention, it is a melancholy truth, that, with very few exceptions, the alehouse swallows up a large proportion of their annual earnings,—earnings which might produce comfort, where wretchedness only is to be found, and which, in case of sickness or accident, reduces the families to a state of want, requiring parochial relief. Nor are these evil habits confined to the male labourers. It is to be lamented, that the females are not seldom parties in the waste and depravity which produce so large a portion of culpable indigence.'

(Page 237.) 'In the metropolis, and in all large towns, the poor are subject to another excessive burden upon their little incomes, originating chiefly in their improvidence and total want of frugal habits or forethought, which compel great numbers to resort, on every occasion, to the pawnbroker's shop, when want, or even the gratification of any propensity, renders the accession of a small sum of money necessary, which is not seldom laid out, at the same moment, in gin, or some expensive food or other gratification, which might have been dispensed with. In other instances, useful articles are pledged to procure the absolute necessaries of life. So rooted is this habit of trusting to the pawnbroker's shop for assistance, while an article of furniture or a rag remains, upon which money can be raised, that a dependence on this resource often deadens the stimulus to forethought, producing previous exertion. Yet, in so great a degree has it become a habit, that, if these modes of raising money were not accessible, or were suddenly taken away, thousands would unavoidably perish in the streets. The distress, on some occasions, is so great, as to compel the miserable objects to pawn the blanket in the morning to take out the coat, gown, or petticoat; and again, in the evening, to pawn the day garment to relieve the blanket to cover them in the night.'

(Page 239.) 'The agricultural poor are doubtless much less contaminated; but the propensity to flock to large towns, and the fascinating allurements which are presented, aided by the force of example, and stimulated by the state of debasement in which they have been educated, speedily render them victims to the same corruption of morals, the existence of which is also strongly evinced by the vast number of the labouring classes who cohabit together without marriage, whose miserable offspring, from neglect, are rarely reared to maturity; and even in cases where, by strength of constitution, the infants arrive at an adult state, the vicious habits they acquire, in their progress to manhood, generally render them unfit for any useful purpose in society.'

And let me add, that throughout the whole community, from the

highest rank to the lowest, multitudes, from the depravity of r principles and dispositions, spend their lives in a manner ally base and irregular, not unfrequently aggravating their ues, by uniting together, as if by instinct, for the purpose of olving others within their vortices.

suspect, however, that the chief difference betwixt your cor- ondent and me does not lye in any thing regarding the facts ppearances in the matters concerning which we treat, but in views and estimations of the nature and importance of these s and appearances. Your correspondent, and many others, the same view of their countrymen that a chemist takes of materials upon which he is to operate; and it may be very , that all the above classes of people may, notwithstanding r moral defects above stated, be very fit engines for the pur- es of political projectors, and commercial speculators and fa- ators. They may keep in motion a portion of wealth and in- nce, superior perhaps to what the same number of Highland- in the same circumstances, could effect; and they may be to perform most of the functions of the British public with icient *eclat*. For these reasons, perhaps, such personages may well enough satisfied with things as they stand.

f my views of the interests of this country were taken on no ner grounds, perhaps my remarks might have been spared. it is not merely the immediate, but the ultimate, interests of community that I contemplate. Our lands may be rated at ty, or forty, or fifty years purchase; but what security do we sess, that the same moral depravity amongst us will not, with- he same number of months or weeks, produce the same poli- l disorder that it has done in every other country of Europe? Your correspondent is exceedingly fond of classing the High- der with rude and half-civilized nations: he does not, how- r, condescend to name any one of these nations in particular. surely, however, does not mean to say, that the Highlander embles

> 'the rude Carinthian boor,
> Who 'gainst the houseless stranger shuts the door;'—

the Spanish patriots, who lock up their houses and effects n our brave countrymen, who are generously fighting their dles; for he acknowledges that the Highlanders are hospita- As little will he say, that they resemble the Russian or ish peasant, who will sprawl at your feet for a coupek, and o will yet rob, dragoon, or trepan you, when an opportunity rs; or the Swiss, who, like a mastiff, will protect, and, like ame-cock, will fight for any master that feeds him, in defiance that principle of discrimination and attachment that marks the onal being.

The

The truth is, your philosophizing friend has allowed himself to be misled by his general principles. The Highlander, though exposed to the hardships of a rude life, from his habits and from his education early acquires more just conceptions of things, than many who figure very high in society. He not only knows, but he feels, the value of virtue, and of a virtuous character of independence, and of preserving his strong and agile body in subjection to his mind; and as he perceives that, in order to raise himself in society, he must submit to privations and persevering exertions, he conforms himself most faithfully to these duties. These qualities, I can assure your correspondent, have a much higher origin than in physical contingencies.

There is one proud distinction that marks the Highlander, not only from every other rude nation, but from all the rest of his fellow-subjects,—I mean, his unalterable attachment to that cause which his head and his heart may have embraced. Those who attend to the vascillations of public opinion cannot but be astonished at the extreme fervour with which the most opposite and incongruous principles are successively maintained, within the shortest space of time, by the same individuals. No man reprobates the views and principles of the Steuart family, nor feels more attachment to those established by the Revolution, than I do; but when any one perceives the dreadful series of crimes and follies that took place from the first dawn of these principles to the expulsion of the family with whom they originated, and sees how often they were lost and recovered by accidents which could not be provided for; and discovers also, that almost every individual concerned in them was sooner or later contaminated by corruption; he cannot help thinking, that the unaltered attachment of this simple class of people to the expatriated family, in every stage of their fortune, confirmed, no doubt, by their detestation of the baseness and treachery which they perceived to be employed against it, exhibits a stability of principle, and a force of character, highly worthy of our admiration. I mean not to defend their political views, nor the measures to which they resorted; I mean only to contrast this general sentiment, and this force of character, with those wavering principles, and that imbecility of mind, which is the sport of party and the tool of faction. And it deserves to be noticed, that a kindred fate has attended our antient race of Kings, and that part of their subjects who imitated their departure from these islands with such unparalleled fidelity. Expelled from their native territories, they hold up to the world a monument of the folly of opposing the current of general improvement, when it becomes manifestly necessary for them to conform themselves to its progress.

If,

If, however, trustworthiness, cordiality of affection, and sound discretion, joined with a frame capable of sustaining the highest fatigues and exertions, have not lost their value, we may surely, notwithstanding their exuberant vanity, lament the hardships to which the Highlanders have been exposed. These men, not many years ago, after being expelled from their antient habitations, were huddled aboard vessels, which, in many instances, did not afford the accommodation usually given to negroes. The disease and mortality thereby occasioned were augmented, by being subjected to the caprice of a ruffian, who, for the sake of saving a barrel of beef, or a cask of molasses, would prescribe a regimen, which he could not but know would injure the health of all, and endanger the life of many of his passengers. Afterwards, these men were driven ashore, in countries alienated from them by hostile animosity, where their rustic garb and simple manners induced only ridicule and contempt. Thank God, these times have so far passed away; Government has at length put this business under equitable regulations, and laid open a field of relief within its own transatlantic territories. I most sincerely hope, that these arrangements will continue to be most rigidly enforced, and that the privileges and immunities held out to the Highlanders in these distant regions, will be most faithfully and scrupulously performed, both in the spirit and in the letter.

But I wish that your Glasgow friend, and those who would quash their sympathetic feelings by the above considerations, would endeavour to bring the matter home to themselves. How would he, or any of his fellow-citizens, feel, if their fine city was dismantled, and they themselves set adrift, almost pennyless, to the wide world? Would they reckon it a sufficient consolation to be told, that they might retire to France or Flanders, where it was evident they would be received with hatred and contempt, and where, after undergoing the usual process of degradation, they might, in a few years, expect to be employed in driving sledges or making bricks? This case is not too strongly in point; for the main difference arises from that superior strength of body and force of mind, which is known to belong to the Highlander.

I humbly conceive, however, that there is no real necessity for expatriating the Highlander at all; the main difficulty seems to arise from the want of capital. I perceive your correspondent and many others have strange misconceptions on this head. I propose, God willing, to send you my views on this subject by and by; and I hope to be able to convince your northern friends, that there is nothing whatever formidable in this difficulty, and that it is very much in their own power not only to retain at

home their whole population, but to advance it greatly in the scale of society. I am, Sir, your most obedient servant,

Glasgow, 4th August, 1809. DAVID LAURIE.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Consequences of Tithes and Taxes.

SIR,

HAVING, for some time past, had opportunities of seeing your valuable Magazine, I am induced to trouble you with the following detail of facts respecting agricultural improvement in this part of the country, which I request may be inserted at your conveniency.

There is a farmer in this neighbourhood, whom all the farmers hereabout, as well as myself, look upon as an extraordinary improver of land, and one whose merit, in this respect, ought to be more generally known, though, perhaps, he cannot be compared with many of the great improvers mentioned in the Magazine. Stimulated by this gentleman's example, and by the animadversions of Messrs Cully and Bailey, in their agricultural report of Cumberland, the farmers in general, in this county, had got into the road of improvement; but a certain circumstance has damped their spirits for the present, and may probably stop further progress.

The gentleman alluded to returned to this his native county about six years ago, and took a farm in one of the highest and most uncultivated parts thereof, deemed by most people susceptible of little or no improvement whatever, though he has now afforded them ocular demonstration to the contrary. Indeed, when we first observed him attempting to drain a peat moss of about seven acres, and heard him talk of making it carry corn, we seriously thought him mad, as the moss was 15 or 16 feet deep, and of the worst quality. To our astonishment, however, in the course of two years, he gained a crop of oats, not less than six quarters per acre, of good quality, and nearly double in quantity to what was obtained from land in the vicinity, commonly reckoned good; and from the crops of oats, turnips, wheat, rye and grass, which we have seen produced upon said piece of wretched moss, we are now disposed to think it was not so difficult a matter to obtain them as we had formerly imagined.

The first crop having so far exceeded his expectation, he told me that he wished much to have the common enclosed, the extent of which is at least ten times as much as that of the enclosed lands; but, as there was no immediate prospect of that taking

taking place, those concerned being prejudiced against every innovation, till further trials should in a great measure insure the result, he embraced an opportunity that offered, and purchased two hundred acres of an adjoining common, at the rate of 2*l.* per acre, part of which was a swamp, and the rest a moorish soil, on a bottom of stiff clay. He has had the land in possession for about four years, during which time he has enclosed the whole, and divided and improved one half, by paring and burning, liming and ploughing, to a degree not credible by any person who has not seen it, though he had no dung but what was produced from the crops. A few days ago he showed me a statement of this year's crop, which was as follows.

Twenty acres of clover and ryegrass, mowed early in July, and yielded 2 tons per acre, or 3000 stones in all, half of which was sold at 10d. per stone.

Two acres wheat, scarcely a medium crop.

Fifty-four acres oats, very good, not less than six quarters per acre.

Three acres barley, very good.

Three acres peas, not very good.

Eleven acres turnips.

Four acres grass seeds, sown by themselves in May, which, with the turnips, aftermath, straw, and unsold hay, will be sufficient to keep four fattening heifers, not less than 40 stone each, and sixty sheep, besides wintering twenty cows and heifers, eight calves, and six work horses, till the beginning of May. In short, I think the gross produce of this year cannot be estimated at less than 600*l.* on a moderate calculation; but, notwithstanding the wonderful change made by improvement, he has stopped short, and left the other 100 acres in its natural state, assigning, as his reason for so doing, that the *taxes* and *tithes* to which his improvements subject him, swallow up the whole profit. He showed me a note of taxes for the ensuing year, extending to 35*l.* 15s.; and he is of opinion that, in the course of three years, the tithe of his own improved land will be at least 10s. per acre, or 50*l.* a year, which, with the 35*l.* 15s. of taxes, makes 85*l.* 15s., or a trifle above 17s. per acre; a sum which he considers as exceeding his profit, exclusive of legal interest for money expended. Though the *Scotch Farmer* (page 398, vol. I.) may call this gentleman, among others, by the handsome epithet, *obstinately mulish*, for not proceeding in a losing concern, I am inclined to think he would be equally mulish, were he in the same situation. Indeed, the greatest improvers in this country, whether landholders or tenants, seem to be persuaded that, under existing circumstances, such improvements is a losing trade; therefore are laying down their lands in

grass, and allowing those that are unimproved to remain so. Thus, the cheering prospect, entertained for some time past, of one day beholding our extensive common, not less than 24,000 acres, in a beautiful state of improvement, is at an end, at least for the present, as the tithe-owner refuses to take any allotment for his right. Most of the farmers have done a little in the way of improvement, and patches of good turnips are observable in different places; but there is reason to fear, and it hurts me much to think of it, that, for the reasons and causes now assigned, improvement is at a stand. If any of your friends can administer some salutary advice in our present situation, it will much oblige,

Sir, yours, &c.

Cumberland, 1807. A. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the Account of the Duke of Buccleugh's Improvements.

SIR,

WHEN looking over your Thirty-sixth Number, (vol. IX. p. 471.), I observed a correspondent setting forth the great and various improvements executed upon the estate of that worthy nobleman the Duke of Buccleugh, in the south of Scotland. So far as I am able to judge, the remarks of your correspondent upon these improvements seem very accurate, and well worthy of the notice of storemasters. It is at this time my intention to offer a few additional remarks, which, if thought worthy of a place in the Magazine, are very much at your service.

I approve much of streighting and widening rivulets and drains, provided these things can be done in such a manner as not to stop the walk of the flock; and am of opinion, that they may, in most cases, be effected by throwing bridges across the rivulets and drains, as suggested by your correspondent. In general, I agree in the propriety of what is mentioned, of his Grace having bound his tenants not to allow black cattle to pasture along with the flocks, especially on farms where the land is soft and boggy, from the idea that they destroy surface-drains; and that land, when poached by their feet, or fouled by their dung, becomes noxious to sheep. But there is one thing I would recommend to his Grace, namely, to allow any of his tenants, whose farm consists chiefly of coarse, benty, flat land, to summer a few Highland cattle; and if they are kept for the most part upon the benty parts of the land, and disposed of about the middle or end of July, the farmer will not find his flock in a worse condition at Martinmas, than if there had not been one

one upon the farm, whilst, on an average of years, he will be 40*l.* richer. A farm of this description, that will keep thirty scores of sheep, will easily summer forty black cattle for nine or ten weeks; and, if they are not kept longer than the 20th or 25th July, I maintain, the pasture will be bettered by them; for when that kind of grass, which in our part of the country goes by the name of deer-hair, or broad and small bents, is not kept short, it soon gets into a state that neither sheep nor cattle will depasture it; but, when eaten in time, and kept short, sheep and cattle will pasture upon it a month or six weeks longer, and with more pleasure, than if it had not been toped at all. I know several farms of this description, that, during the three summer months, could maintain almost double the stock they are capable of keeping through the rest of the year, owing entirely to the great growth of these bents. In this case, when the farmer puts no more than an ordinary stock upon the farm at that season of the year, these grasses soon turn so long and brown at top, as to be almost wholly lost; whilst, on such soils, surface-drains are not so easily hurt by cattle as those on soft, boggy lands. I would recommend mole-catching to all farmers, whether they possess land hard or soft, coarse or fine, more than not keeping small cattle; from a conviction that the water, which springs out of their holes or courses in the time of wet weather, proves more injurious to the health of sheep, than either the dung or feet of cattle. In p. 479, your correspondent, speaking of water-flooding, beseeches the farmer to beware of introducing water, especially in autumn, as he affirms that twenty-four hours floating at that season will rot his sheep. If this be the case, what danger must the flock be in, when the farmer allows hundreds of moles to riddle the surface of his ground, in such a manner that, when wet weather comes, the most part, if not the whole of it, is under what may be called pump catch-work flooding, which must, in a short time, bring the flock to destruction.

Your correspondent next recommends building of stells, for the accommodation of sheep in the winter and spring months. He says, that belts and clumps of planting have long been adopted in the lower districts; but that the stells he has chiefly in view, are such as are erected on high lands, to shelter the flocks both from snow and rain. The stells pointed out in p. 473 and 474, I very much recommend. My farm consists of near four thousand acres, on which I have built eight stells, called, in this part of the country, *rounds*, from, I suppose, their being built in a circular, or rather oval form, strait or wide according to the size of the flock. I have, however, no arms to them, nor any bad weather stells whatever, as the farm is steep and dry, and seldom

or never visited with storms. If ever it shall be my lot to reside on a farm in a stormy climate, where it often becomes necessary to hay the flocks, or to remove them to lower grounds, I would, provided I had a long lease, or lived under a liberal-minded landlord, who would give encouragement for planting, make trial of a stell of the following description, being of opinion that there is not a farm, except on very high lands, where a spot or two could not be found, on which firs of different kinds would grow; and even supposing such a spot could not be conveniently got, I would still keep the flock at home, and feed them with hay, if it could be obtained, in the following manner. A flock of forty scores will require a circular stell 25 yards in diameter, and the wall 7 feet in height, 4 feet of which to be composed of dry stone, and the remainder of grass sods or feal, the last row having the green side uppermost. The wall should be three feet thick at bottom, and two feet thick at the beginning of the sods or feals; the whole of the dry stone part to be pointed with lime, if it can be conveniently obtained, which will render the stell both durable and warm. On the inside of the wall, I would fix a row of half hecks, about six or eight feet long, and two feet from the ground, fastened by ducks placed in the wall both below and above, and cover them with boards half an inch thick, to preserve the hay from rain. At the distance of three yards from the wall, I would erect a row of hecks, joined close to each other on both sides, forming an inner circle to the wall; then, at three yards distance from the first, a second row of hecks; and then a third row at an equal distance from the second, after which, there will remain a space of $5\frac{1}{4}$ yards in diameter for the site of the haystack, exclusive of $1\frac{1}{4}$ yards between the third row of hecks and the paling round the stack. The whole length of the hecks, taking both sides of the circles, will be about three hundred yards; so that, allowing two yards for every five sheep to stand and feed, which I think will be sufficient, thirty-eight scores may feed at once; and between the circles there is sufficient room for them to pass and repass from one place to another. The expense of such a stell could not be very great, as most of the hecks may be made of young firs, though I would recommend hard wood for their feet and for the ducks. There should also be small doors in the hecks, at the distance of twelve or fourteen feet from each other, for putting in the hay. By the use of such a stell, almost the whole flock might feed at once if they chose; and little hay would be wasted, in comparison of what is lost when laid down in the open field; besides, the waste from the stell would be good nursing hay in the spring, and be converted into dung; whereas that in the open field is totally lost. It will

be

be a bad day, indeed, if the shepherd cannot get his flock hayed at some time or other of it; and, when that is done, he may shut the stell door, and go home contented, knit his stockings, and chat with the women about the fire-side, which is the most of his work in the winter season, unless in time of bad weather. In a favourable spring, he may amuse himself with cleaning out the stell, and preparing it for another winter.

If there is a piece of ground fit for planting, to the extent of forty or sixty yards round the stell, it would be a valuable acquisition, as it would answer well for the sheep to stand in while the shepherd was putting into the hecks their allowance of hay, which, in stormy weather, I believe, is 24 lib. English per score, and also would serve as a black weather stell, especially on flat lands, at the breaking of a storm, when every hollow place or sudden *beild* is blown full of snow. If there is a C *stell* on the farm, it is probable that it is filled with snow, so that no shelter can be obtained for the flock, unless they are put into the round *stell*, where perhaps they have been every night for four or five weeks, and which, by this time, must be so full of dung, that, after a few hours of fresh weather, the poor animals must stand knee-deep in dung and water; a situation often attended with fatal consequences to many of them.

I would recommend to any gentleman or farmer who wishes to try a *stell* of this kind, to put a paling around the planting, and along the sides of the entry through it, to the inner stell, and not a stone wall, which would be more apt to collect snow in great wreaths, by which means the sheep might easily get over the fence, and destroy the young trees which, in a few years, if properly attended to, will afford weedings sufficient to keep in repair both hecks and paling. If the stell is to be erected by a farmer, he should, for the safety of his flock, have leave from the proprietor, to cut any of the trees nearest to the inner stell, that have got to such a height as to be in danger of being blown down into it by the fury of the wind in a stormy night; and to replace them with young ones. One of your correspondents says, that a neighbour of his paid no less than 100*l.* for snow mails in the year 1802; and that, since 1794, some flocks have been five, and others six times removed from the ground, for want of food and accommodation. It is really wonderful that storemasters, who have paid so much money for snow mails, while their sheep are half starved, do not try some method to provide for their flocks at home, and not lay themselves at the mercy of a class of Low Country farmers, who will charge a shilling, and perhaps eighteen pence per night for each score of sheep. They will give the flocks indeed the range of the whole farm; but of what con-

sequence is that, when not a single grass pile is to be seen above the surface after Martinmass, except perhaps a little heath? The Low Country farmers know well, that necessity alone brings the storemasters to them, and that, under the present mode of management, they cannot do without them in a stormy winter; therefore must come to their terms. In my opinion, however, there is not one farm in ten, from which, under the present system, the flocks are occasionally removed in severe winters, but what would produce plenty of hay, to enable the farmer to keep his flocks at home, even in the worst winters, and so free himself from the impositions of his Low Country brethren. Ten stones of hay got each year, would be sufficient for a score of sheep, taking the good and bad winters together.

Before concluding, I would advise all farmers, whether in high or low situations, who have a flock or flocks of ewes with lamb, to provide for every flock two enclosures, one of three, and the other of eight or nine acres, the small enclosure for the unkindly ewes, and the large one for those that are kindly, but have not much milk. Such enclosures are useful and necessary for ewes and lambs of all sorts, but particularly those of the white-faced breeds. They also save much labour to the shepherd, who can see the lambs more frequently than would otherwise be in his power, whilst it affords him time to visit his other flocks.

As to what your correspondent states about the flooding of meadows, I can say nothing, having never seen it tried in this part of the country. He says, that Dr Singers reckons 150 stones per acre an average crop; but, as he does not condescend upon the value of the land before flooding, I can form no idea of the advantage gained by the operation.

I am, Sir, yours, &c.

THE STOREMASTER'S WELLWISHER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Mr Borthwick on the planting of Scotish Firs and other Timber Trees.

SIR,

A FEW remarks on *Scotish Firs* are subjoined to the following paper on the same subject; which, as containing some well authenticated facts and opinions stated by an experienced judge,* may be not unworthy of a place in your Magazine.

"IT

* I mean *James Farquharson*, Esq. of *Invercauld*, whose estate, situated at the head of the Dee, in Aberdeenshire, comprehending magnificent

"It is generally believed that there are *two* kinds of fir trees, the produce of Scotland, viz. the red or resinous large trees, of a fine grain and hard solid wood: the other, a white wooded fir, with a much smaller proportion of resin in it, of a coarser grain, and a soft spungy nature, never comes to such a size; and is much more liable to decay. At first appearance, this would readily denote two distinct species; but I am convinced that all the trees in Scotland, under the denomination of *Scotch* fir, are the same; and that the difference of the quality of the wood, and size of the trees, is entirely owing to circumstances, such as the climate, soil and situation they grow in. These finest fir trees appear in the most mountainous parts of the Highlands of Scotland, in glens, or on sides of hills generally lying to a northerly aspect; the soil, of a hard gravelly consistence, being the natural produce of these places. The winged seeds are scattered in quantities, by the winds, from the cones of the adjacent trees, which expand in *April* and *May* with the heat of the sun. These seedlings, when young, rise extremely close together: this makes them grow straight, and free from side branches of any size, to the height of fifty or sixty feet, before they acquire the diameter of a foot. Even in this progress to height they are very slow, occasioned by the poorness of the soil, and the numbers on a small surface; which, I may say, makes them in a constant state of war for their scanty nourishment; the strongest and tallest by degrees overtopping the weaker; and, when the winds blow, they lash against one another. This assists in beating off any horizontal branches that might damage the timber with knots, as well as by degrees crushes the overtopped trees. In such state of hostility, they continue struggling, until the master trees acquire some space around them; then they begin to shoot out in a more bushy manner at the top, gradually losing their spiral form, increasing afterwards more in size of body than height; some acquiring four feet diameter, and above sixty feet of height to the branches fit for the finest deal board. The growth is still extremely slow, as is plainly proved by the smallness of the grain of the wood, which appears distinctly in circles from the centre to the bark. Upon cutting a tree over close to the root, I can venture to point out the exact age, which, in these old firs, comes to

magnificent forests of both natural and artificial firs, must have afforded him ample opportunity for observation and experiment concerning them. Mr Farquharson's paper was written in the 1769; and although published in the Appendix to Mr Pennant's *Tour through Scotland*, it may still prove interesting and useful.

to an amazing number of years. I lately pitched on a tree of two feet and a half diameter, as this is near the size of a planted fir of fifty years of age mentioned; and I counted exactly 214 circles or coats, which makes this natural fir above four times the age of the planted one. Now, as to planted firs, these are raised first in dressed ground from the seed, where they stand two seasons or more; then are planted out in the ground they are to continue in, at regular distances, having a clear circumference round them for extending both roots and branches: the one gives too quick nourishment to the tree, which shoots out in luxuriant growths; and the other allows many of the branches to spread horizontally, spoiling the timber with knots. Besides, this quick growth occasions those thick yearly circular coats of wood, which form a coarse grain, of a spongy, soft nature. The juices never after ripen into a proportional quantity their resinous preservative balm; so that the plantations die before the wood acquires age or a valuable size; and the timber, when used in work, has neither strength, beauty nor duration. I believe the climate has likewise a great share in forming the nature of the best wood, which I account for in the following manner. The most mountainous parts of the Highlands, particularly the northerly hanging situations, where these fine fir trees are, have a much shorter time of vegetation than a more southerly exposure, or the lower open countries, being shaded by high hills from the rays of the sun, even at mid-day, for months together; so that, with regard to other vegetables, nature visibly continues longer in a torpid state there, than in other places of the same latitude. This dead state of nature for so long a time, yearly, appears to me necessary to form the strength and health of this particular species of timber. No doubt they may at first show a gratefulness for better soil and more sun, by shooting out spontaneously; but, if the plant or tree is so altered by this luxury that it cannot attain any degree of perfection fit for the purposes intended, the attempt certainly proves in vain.

"From what is said above, it is not at all my intention to dissuade from planting *Scotch* fir, but to encourage those that have the proper soil and situation to do so; being of opinion, that where these circumstances agree, and where planted, not in lines, but irregularly, and thicker than common, the trees will come to be of equal size and value with the natural ones. In confidence of this, I have planted several millions on the sides of hills, out of reach of seed from the natural firs."

Such, *verbatim*, is Mr Farquharson's paper: and his opportunities of information on the subject certainly entitle it to attention. The paper, however, contains some ideas with which I cannot

cannot altogether agree, therefore must take the liberty of giving my reasons as shortly as possible.

I do not mean, at present, to inquire, whether there are two or more, or only one species of *Scotish* fir; but, *prima facie*, I am rather of the former opinion. 'I now' (says *Lord Haddington*, in his neat and very practical treatise of forest trees) 'gather cones from the firs that have the reddest wood, easy to be known from their having been pruned: for, let people say what they please as to there being but *one* kind of Scots fir, and that all the difference we see in the timber is owing to the age of the tree, or the soil it stood on, I am convinced it is otherwise: for I once cut down some of about forty years old, which I thought grew too near my house, and stood within a few yards of one another; some of them were red and hard; others white and spongy, though the seed was all of one parcel, sown in the same spot, and transplanted the same day.'

This is contrary to the supposition of Dr Walker; * but I think his opinion on this point not well founded.

It is stated above, by Mr Farquharson, that the finest forests of fir are in *glens*, or on the *sides of hills*, generally lying to a *northerly* aspect. This he attributes to these glens and northerly hanging situations having a much shorter time of vegetation than a more southerly exposure, or the lower open countries: and his reason is, that it appears to him that a long continuance of the '*dead state of nature* is necessary to form the strength and health of this particular species of timber.' It is true that Dr DARWIN † and Mr Knight ‡ state, that part of the proper juice generated in plants and trees when vegetation is most vigorous, that is, in the course of summer and beginning of autumn, is deposited in the solid matter of the *alburnum*, and remains deposited in it during the winter; and that, in the spring, when vegetation is renewed, this deposite, ready *assimilated* to the vegetable, and adapted to the formation of the new buds and shoots, is dissolved by the ascending sap. But however probable this theory (for it is yet but a theory) may be, there is no reason, either apparent or stated by Mr Farquharson, for holding that the fir requires longer time for this assimilation of sap than any other tree; nor can it be pretended that the fir or any other tree is drawing up sap through its roots during what he calls the 'dead state of nature.' In this state, therefore, the fir must be *chewing its cud*, so to speak; and it is contrary to the laws of nature to suppose that a fir

* Essay on Nat. Hist. and Rural Econ. p. 32, 33.

† Phytologia, p. 28, 158, 163.

‡ Philosophical Transactions 1805, p. 70, 101.

fir tree, like a gluttonous alderman, will cram more meat into its maw than it will have time to digest before the next spring forces it again to swallow. Besides, it is fair enough to add an argument of analogy, since there is no better one on the other side. Now, as to the *oak* or the *ash*, for instance, there is no difference remarked, whether they grow in a situation which has yearly much of the dead state of nature or little of it; or, if any difference is made, the preference is given to the latter situation.

The question, then, comes to be,—why does the firs grow best in glens, and on the northerly sides of mountains? And my answer is,—because, in these situations, it is not exposed to the southerly and westerly winds, which are the strongest winds in Scotland. * No trees thrive well in an exposed situation; † and the fir is, of all other trees, the most obnoxious to winds. Besides the brittleness and fissility of its wood, it does not take such a fast hold of the ground as many other trees, being supported almost entirely by its lateral roots which run along, near the surface of the ground. It might well have been the fir to which Æsop alluded, when he wrote his fable concerning the respective fates of humility and pride: for, by its bushy top, and tall inflexible stateliness, it is broken over by the middle, or laid flat, with a crash, by the tempest; when other trees, by bending and yielding, get safely through. It would appear to me, therefore, that what has just been mentioned, is the cause why the best forests of this kind of wood are, in this country, found in glens, and on the northerly sides of mountains; which shows also, that firs ought never to be planted, as forest trees, but in such situations. Indeed, generally speaking, the finest trees, of whatever description in Scotland, are found in glens, and the northerly sides of hills; a circumstance hostile to the theory of the Laird of Invercauld.

It is mentioned in the foregoing paper, with perfect truth, that planted firs never come to such perfection as natural ones, which, whatever be the cause of it, is a very important fact. Very few situations, indeed, in this country, seem to have a natural predilection for fir. In most situations, where the natural propensity to wood is shown, we see that some kind of hard wood, as oak, or birch, or hazel, is the most grateful. Timber, of the nature of these trees, is by far the most useful for every purpose; and, therefore, it is a fair and an important question, whether the invitation

* This is proved, by almost all trees in exposed situations in Scotland having an inclination to the east and north east.—See *Dr Walker's Econ. Hist. of the Hebrides*, vol. II. p. 283.

† Large trees are not found in level countries. This is particularly exemplified by many of the counties in Ireland.

ı of nature to plant hard wood in this country has not been several years past, and is not yet too much neglected. Acding to the prevalent taste, a gentleman, wishing to show the rld that he has been doing something on his estate, plants a ıt number of stripes and clumps of Scotish fir: these, if upmoory and exposed situations, never come to any thing; and, ın favourable situations, hard wood would have grown there ally well, and, at any given age, would have been much more ıable; and, generally speaking, (although this will apply, pers, but in a less extent, to all sorts of trees), it will be found, calculation, that the value of the wood, sold at its greatest atable perfection, does not nearly compensate the want of the during the growth. It may be said, that the rapid growth his tree affords an early shelter. But, in many situations, re this plan of shelter might be adopted, one stone wall would equally well, which would occupy no ground, and would cost than one half of the original expense of making a belt of ıting; and, in all situations, when the want of permanency his shelter,—when the greater value that might have been got other kinds of wood, &c. are considered, it will be found to ery unprofitable. *The only advantage of planting firs*, aps to me to be for the purpose of *protecting and training up ıg hard wood trees*, which ought always to be interspersed aıgst them.* As such hard wood trees are growing to strength, firs must be gradually pruned and taken out, till they are alt all cut down, to give room to the hard wood, which otherı will not thrive: And when something similar to this is not object, the plan of planting Scotish firs seems to me to be ly prejudicial. †

llow me to add just a word, 1st, on the mode of preparing ground for planting firs; and, 2dly, on the mode of planting rearing them.

. It is the endeavour of many people to have the ground in a erized state, before planting firs, to facilitate, as it is said, spreading of their roots. From repeated trials, it appears to that it is better to have the land in lea, and to plant the ı by making pits. For, 1st, it is less trouble, and the pitting erizes a sufficient quantity of the soil round about the root of plant, to let it strike and spread: 2d, it is not so apt to make

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* 'It is surprising,' says Lord Haddington, 'how fast oaks and r valuable trees will grow, when planted under the shelter of ' a fact which every person must have remarked.
See Marshall's *Planting and Rural Ornament*, vol. I. p. 145.

number of long rank weeds and grass to shoot up, which impedes, and often chokes the growth of the seedling: and, 3d, I have observed that the firs planted on ploughed land are most apt to be blown up after growing large, owing, I suppose, to the surface of the ground, always under shade, not coming to so firm a consistency again, as the natural turf.

2. Firs may be allowed to come up in the seed-bed very thick; and should remain there two years from the date of the sowing. Some recommend the removing them to nursery; but the advantage is not equal to the expense and trouble. However, if the planter is not the sower of the firs, as is often the case, it is a good plan (especially when they are to be carried from a better to a worse soil) to plant the seedlings by way of nursery for a year in the soil they are to be planted in as trees, which will habituate them to it, while it will, in a great measure, obviate the risk (which, without this precaution, is great) of any of them dying after they are set out.

If the soil is not stiff and hard, there is an easier way of planting firs than the one by pits, recommended above; namely, a man goes with a basket containing the plants, and a man with a spade, who strikes it into the ground, presses it backwards and forwards, till the slit is made wide enough to receive the root, which the man with the basket sets in, and then with his foot presses it together. Many thriving plantations have been done in this way. Besides expedition, this mode is not so apt to produce the growth of rank weeds in this soil, as pitting.

Great care should be taken not to strangle the plants by setting the roots too deep, a common blunder; two men are always necessary to prevent this; the one to hold the plant at the proper depth, and the other to fix the root with the spade.

I think it better to plant in rows than irregularly, although Mr Farquharson recommends the latter mode; for the trees are the more easily and regularly thinned. Every second, or every third row, according to the distance of them, (which is modified, a good deal, by the nature of soil and situation), should be interspersed with hard wood trees; for it answers equally well, and comes cheaper at first, by the difference of the price of the hard wood and the fir seedlings, not to plant distinct and continuous rows of hard wood. Then, in thinning, the fir trees, interspersed with the hard wood, are cut out first, leaving all the hard wood: the room thus made will allow the intervening continuous rows of firs some more time to grow to a useful size, before the increase of the hard wood trees makes it necessary to cut these intervening rows almost entirely out.

I disagree much with Mr Farquharson, as to the planting of firs

thick.

thick. If planted in company with hard wood, as they ought always to be, thickneſs is perfect ruination. Planting thick, eſpecially in the caſe of firs, is the general blunder. Half of the fir plantations in Scotland have been ruined by thick planting. Choking each other, they have grown up, like the ſprouts of a pollard, tall and ſlender; and, conſequently, whenever one dies, or a breach, by any means, is made in the plantation, there the wind takes impreſſion, and, the trees being unable to ſupport themſelves individually, the vacancy is widened and widened, until thouſands are deſtroyed. There is an inadvertence which may have frequently led to the thick planting of trees on the ſides of hills. It has not been attended to, that no more trees can grow upon an inclined, than upon an horizontal plane of the ſame baſe, as trees grow perpendicular to the baſe. Allowance has frequently not been made for this; and, accordingly, many thouſands of trees are preſently growing at no greater diſtance from each other, than one or two feet, although they were ſuppoſed to be planted at the diſtance of four or five. It is an univerſal rule, in planting firs at leaſt, that every tree ſhould be placed ſo as to grow up habituated to the wind and weather of its expoſure, and be able to ſupport itſelf, without truſting entirely to the ſhelter of its neighbours. From this, it follows, that all plantations ought to be continually undergoing weedings, and thinnings, and prunings, to prevent the branches of any tree from touching or overhanging thoſe of another, thereby giving the trees ſoil and air to grow ſtrong, which is the only way to make them uſeful. This is pointedly applicable to fir trees, as demonſtrated to me by the following coſtly experiment.—There is a fir plantation, under my eye, about ten years old, which was very thriving, until ſpring 1808, when it was nearly deſtroyed by the ſnow. The trees had been originally by far too thick planted; they had alſo been neglected to be thinned; and, conſequently, grew quite impervious. Accordingly, the ſnow falling upon them, could not get to the ground, and, collecting on the top branches, (which, being ever green, are always thick and buſhy), left a vacuity below. The weight of the ſnow accumulating, ſoon overpowered the trees, and cruſhed them to the ground: ſome of them that were not cruſhed, were bent; others were completely ſtripped of their branches in a moſt ſingular manner, and left ſticking up in the air, here and there, like ſo many poles. Now, had the plantation been thin, this calamity would not have happened; becauſe the ſnow would have got to the ground, and, however deep it might have fallen, would have built in the trees, and formed, on the ground, foundations and ſupports for itſelf.

And now, Sir, praying that you, and your many worthy and intelligent

intelligent brethren may flouriſh in the midſt of your crops, your oxen, and your ſheep, and alſo that you may never forget the *wood*, and the WOODEN WALLS of *Great Britain*, I moſt reſpectfully ſay, Amen.

C———n, July 15. 1809. J. BORTHWICK.

NOTE BY THE CONDUCTOR.

THE above ſenſible and ingenious remarks have been peruſed by the Conductor with great ſatisfaction; and he rejoices to obſerve a young gentleman of great expectations devoting a part of his time to the conſideration of a ſubject particularly connected with the intereſt of every proprietor of land in Scotland. The Conductor reſpectfully ſolicits a continuation of Mr Borthwick's favours, which, at all times, will meet with ſuitable attention. The planting of timber trees is an important branch of national improvement, though, perhaps, too much diſregarded. Were tenants made to have an intereſt in the growth of trees, that is, were a certain proportion of each plantation, made and trained up by them, to be their property at the concluſion of a leaſe, it is highly probable that innumerable pieces of land, upon every farm, would be immediately devoted to timber culture. On this branch of the ſubject, the Conductor will be glad to hear from Mr Borthwick. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from the Reverend Mr Campbell.

SIR,

IN one of the early Numbers of your Magazine, a correſpondent aſſerts, that plucking the bloſſoms off potato ſtems will double the produce of the crop.

To endeavour to prevent any of your readers from conſuming their time and labour, not only uſeleſsly, but miſchievouſly, in depriving the moſt important of all vegetables (not the *root of ſcarcity*, but the *root* and ſource of plenty) of its moſt beautiful variegated flowers, the pride and the glory of our fields during a conſiderable part of the ſeaſon, I have to aſſure you, that, by an accurate trial made by me laſt harveſt, it is not attended with any benefit whatever. A ſpace occupied by potatoes, carefully deprived of their bloſſoms, and carefully compared with ſpaces of equal extent at both ends, and on each ſide, had not a ſingle pound weight of produce above any of them. The ſpace from which the bloſſoms were taken, regularly as they made their appearance, beginning on the 14th Auguſt, conſiſted

conſiſted of four yards in length, of four contiguous rows, diſtant 2½ feet; and the ſets, being top ends of large potatoes, planted 12 inches aſunder in the rows. The roots were taken up on the 3d of October, when the ſtems were withered, indicating the ripeneſs of the crop. The produce was 61 lib. 12 oz. Amſterdam weight, being preciſely the ſame with that of each of the four ſpaces with which they were compared.

I beg leave, at the ſame time, to give you an account of ſome experiments made on oats in 1808. The ridges, in four experiment plots, were five feet broad; and each plot was about ¼ of an acre Engliſh ſtatute meaſure. Two of the plots, after being harrowed, were ſown broadcaſt, and again harrowed in the uſual manner. The other two, after being harrowed, had the ſides of the ridges pared by the plough; and the earth, thus gathered into the furrows, was, by means of a ſhovel, thrown over the ſeed ſown upon the ridges, which, after paring them, were about three feet broad. A man can, in this manner, cover an acre in a day. The intervals, during the growth of the crop, were kept clean, and the earth in them raiſed up to the ridges, by the implements employed in the cultivation of potatoes and turnips.

The following is the reſult.

	B.	P.
No. 1. Produce of ¼ acre covered by a ſhovel, (1ſt crop after potatoes) -	2	0
Deduce ſeed - - - - -	0	1½
Clear produce -	1	14½
No. 2. Produce of ¼ acre contiguous, (1ſt crop after potatoes), ſown and harrowed in the uſual manner - - - - -	2	2
Deduce ſeed - - - - -	0	5¼
Clear produce -	1	12¾
From clear produce of No. 1, as above - -	1	14½
Deduce do. of No. 2. -	1	12¾
Balance per ¼ acre in favour of ſhovelled oats -	0	1¾

Which, multiplied by 4, is 7 pecks, at 1s. 6d., = 10s. 6d. per acre.

	B.	P.
No. 3. Produce from ¼ acre ſhovelled oats, (2d crop after potatoes) - - -	1	3
Deduce ſeed - - - - -	0	1½
Clear produce -	1	1¼
No. 4. Produce from a contiguous ¼ acre harrowed oats, (2d crop after potatoes) - - - - -	1	4
Deduce ſeed - - - - -	0	4½
Clear Produce -	0	15½
From clear produce of No. 3. - - - - - -	1	1¼
Deduce do. of No. 4. -	0	15½
Balance in favour of ſhovelled oats - - -	0	2

Which, multiplied by 4, is 8 pecks, and the value of it, at 1s. 6d., 12s. per acre.

It may be objected, that the broadcaſt plots got too much ſeed; but, if that was the caſe, how came the clear produce from No. 3, to exceed that from No. 4, which got leſs ſeed than given to the broadcaſt plot No 2? I leave to others, deductions and corollaries from the above experiments; with theories to account for the reſult of them; and calculations of the advantages to be derived to the nation, from adopting the practice which they recommend. And I remain, Sir, your obedient ſervant,

Kilcalmonell, 4. *July* 1809. ALEXR. CAMPBELL.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information wanted reſpecting the Preſervation of Soil in Holms or Haughs.

SIR,

IT is well known, that, in many diſtricts of Scotland, the fineſt of the ſoil, ſituated in the *Holms* or *Haughs*, is very much expoſed to be run away by the rivers when ſwelled by rains. It would, therefore, be deſireable to receive information from ſome of your correſpondents, concerning the moſt practicable and effectual remedy for this pernicious evil.

Whatever gentleman, with due experience, communicates the information ſolicited, he will oblige the country, and receive the thanks of your moſt obedient ſervant,

Gala-Water, *May*, 1809. RIPA.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to Thoughts on Paper Credit, No. XXXIX. p. 317.

SIR,

I WAS ſomewhat ſurpriſed to obſerve in your laſt Magazine, a paper ſigned a *Private Banker*, raking up the old ſtory concerning paper credit, and an over extended circulation, which was attacked by *Jog Trot*, (who really ſupported his arguments with much good humour), and was anſwered in the ſame way by a *Country Gentleman*, whether *ably* or not, the public are the beſt and only judges.

I ſhould have thought, that, after a ſilence of two years, the ſubject had been carried down the Lethean ſtream of forgetfulneſs, thence never to return. But, lo, and behold, this *Private Banker* (clad in the complete ſteel of *dogmatical egotism*) ſteps forward to drag the quiet *Country Gentleman* once more before the tribunal of the public. Leſt he ſhould imagine that he has *triumphantly* run off with the *harrows* over a *paper-mill* field, I ſhall take up the cudgels for my friend the *Country Gentleman*, and endeavour at leaſt

to

o analyze, if not to *refute*, thoſe arguments of his, which will robably be found more *ſpecious* than *ſolid*.

The *Private Banker* ſets out by uſing the hackneyed adage of, *Ne utor ultra crepidam*,—an application, at all events, *illiberal*, if not *ll-bred*; and the axiom made uſe of by the *Country Gentleman*, ſeems o have called forth ſome *ireful latent* daſhes of *would-be wit*. As it s given at full length by him, I ſhall not touch upon it now, further han to obſerve, that, *totidem verbis*, it ſeems to contain a truth s invariable as 2 and 2 make 4. But, Sir, in this age of *illumination*, ſceptics will doubt, and endeavour *logically* to prove, that 2 and 2 make 5. However, the current buſineſs of the world will not ſtand ſtill, until thoſe *illuminati* ranſack their *woolgathering brains*, to favour the public with their *vagarious eccentricities*.

In one part of his eſſay, he ſays, 'But I would juſt aſk him,' (viz. he *Country Gentleman*), 'Does the Eaſt or Weſt India merchant, he great manufacturer, or, in ſhort, the whole mercantile and nanufacturing world, find ſecurity to the public for the amount of their engagements? How, then, does he ſingle out a particular profeſſion, that of banking, and hold it up to the public as depending on popular opinion ſolely for its exiſtence?' &c.

Heavens, Sir, are we to be told, at this time of day, that a ſlip of paper with a government ſtamp upon it, and the ſignature of *Tom-a-Styles* or *John-a-Nokes* attached to it, has any earthly intrinsic value, (excepting what the public opinion gives to its credit)? Far less is this *bauble*, or rather *bubble*, to be put in competition with our *manufactures*, or the *produce of our colonies*, by which the merchant or manufacturer ſo juſtly acquires his credit from the public, and which, at all events, bear a floating value according to the ſtate of the markets. To any one averring, that ſuch perſon or perſons have a right to obtain equal credit from the public for what *notes* they choose to iſſue, we may juſtly ſay—*Risum teneatis, amice!*

This *Private Banker* has quite garbled the letter of the *Country Gentleman*, and only makes ſuch partial extracts as ſuit his own purpoſes. He repreſents him as writing againſt *banking* in general; but if he will take the trouble of examining that letter, he will find moſt honourable mention made of the profeſſion, and of the *fair dealer* in that buſineſs. It is only againſt an over-extended circulation of paper-money, ſupported by a baſeleſs *windy* credit, that the *Country Gentleman* wages war,—one that is likely to *blaſt* all who come within its baneful *vortex*.

How far an act of Parliament, tending to check this *evil*, might fully anſwer the ends of doing ſo or not, may be an enigmatical point to anſwer for its ſucceſs; but, that it is a growing *evil*, our daily prints but too lamentably *exemplify*: and though we

have, as yet, but few instances, in this country, of such *adroit swindling* as prevails in the sister *metropolis*, yet let us beware of innovation. Already robberies have been committed near Haddington, and pockets have been picked in the market. Such *creditable manœuvring* would probably be hailed by the farming interest of this district with the same *auspicious joy* as the introduction of English *poor's rates* and *tithes* into our Scotish system. But as the *argumentum ad hominem* always carries most weight with it, I shall beg leave to adduce an instance in support of my general doctrine.

Two or three years ago, in the city of Newcastle-upon-Tyne, a banking-house of the *highest respectability* (a phrase appropriate to the jargon of modern days) stopped payment for above half a million of money. An acquaintance of mine being then in London, mentioned the circumstance upon *'Change*, but was literally *laughed to scorn* by the monied interest there,—ridiculing, in the extreme, the possibility of there being such an extensive *circulation* in the *north* of *England*. Unfortunately for thousands of creditors, the fact was but too severely *felt*; no dividend has yet been made, or is likely to be made; and they and their families live to *curse* and *execrate* that *high respectability* which has involved them in *utter ruin*.

Now, Sir, let me, in *due course* of argument, ask the *Private Banker*, whether it is likely, that if this *respectable* banking-house had had such a check over it as that pointed out by the *Country Gentleman*, viz. the finding security to the public for two thirds of its intended circulation of NOTES, that they would have pushed matters so far as to have failed for half a million of money, without even the *prospect* of ever making a dividend?

I shall now, Sir, take leave of the *Private Banker*; and, as he has the field of argument left open for him, he may again yoke his *dogmatical harrows*, to run over the wide-extended field of paper-credit. Neither I or the *Country Gentleman* will probably ever enter the lists with him again, at least on that subject; and should he (according to his promissory note) again favour you with his lucubrations, I would recommend to the author of a paper upon *Public Credit* to take him in *tow*. This able and original essay appeared in a late Magazine of yours; and as the author seems to write *fluente calamo*, he will probably find no great difficulty in answering the *Private Banker*. I am, &c.

VINDEX.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requested concerning Steaming Potatoes.

SIR,

I AM one of a club, in a distant part of this county, who take

take in your Magazine, from which we gather many useful hints; and as we see you are always ready to give help to those who want it, I have been desired to address this to you, hoping, by your means, to obtain the object we have in view, which is shortly this. Seeing from your book, and hearing from others, that steamed or roasted potatoes are much recommended for horses, and every kind of cattle, being not only very fattening, but a great saving in the article of corn, it would be doing my neighbours and me a great favour, who have planted a more than ordinary quantity this year, if any of your correspondents would communicate how this can be done in the cheapest way, as we cannot afford iron kettles, &c. We should no doubt understand it better, if a drawing or rough sketch was furnished, or if you could tell us how to build a kiln for roasting them. We might manage this better, being more in our way, that is, if roasting is reckoned as good as steaming, which you will no doubt be able to tell us. Hoping this may catch the eye of some of your correspondents, I shall conclude with wishing a continuation of success to your valuable publication. And remain, for my neighbours and self, Sir, your obliged humble servant,

Perthshire, 25. July, 1809. A FARMER.

P. S. It would be adding very much to the obligation, Mr Conductor, if you would insert this in your next Number, so as we might get an answer before winter.

FOR THE FARMER'S MAGAZINE.

Account of a Method of hastening the Maturation of Grapes. By John Williams, Esq. In a Letter to the Right Hon. Sir Joseph Banks, Bart. K. B. P. R. S. &c. Communicated by Sir JOHN SINCLAIR, *Bart.*

IT is a fact well known to gardeners, that *vines*, when exposed in this climate to the open air, although trained to walls with southern aspects, and having every advantage of judicious culture, yet, in the ordinary course of our seasons, ripen their fruit with difficulty. This remark, however, though true in general, admits of some exceptions; for I have occasionally seen trees of the common *White Muscadine*, and *Black Cluster Grapes*, that have matured their fruit very well, and earlier, by a fortnight or three weeks, than others of the same kinds, and apparently possessing similar advantages of soil and aspect.

The *vines* that ripened the fruit thus early, I have generally re-

marked, were old trees, having trunks eight or ten feet high before their bearing branches commenced. It occurred to me, that this disposition to ripen early might be occasioned by the dryness and rigidity of the vessels of the old trunk obstructing the circulation of that portion of the sap which is supposed to descend from the leaf. And to prove whether or not my conjectures were correct, I made incisions through the bark on the trunks of several vines growing in my garden, removing a circle of bark from each, and thus leaving the naked alburnum, above an inch in width, completely exposed: this was done in the months of *June* and *July*. The following autumn, the fruit growing on these trees came to great perfection, having ripened from a fortnight to three weeks earlier than usual: but, in the succeeding spring, the vines did not shoot with their accustomed vigour, and I found that I had injured them by exposing the alburnum unnecessarily.

Last summer these experiments were repeated. At the end of *July* and beginning of *August*, I took annular excisions of bark from the trunks of several of my vines; and, that the exposed alburnum might be again covered with new bark by the end of autumn, the removed circles were made rather less than a quarter of an inch in width. Two vines of the *White Frontiniac*, in similar states of growth, being trained near to each other on a south wall, were selected for trial. One of these was experimented on (if I may use the term); the other was left in its natural state, to form a standard of comparison. When the circle of bark had been removed about a fortnight, the berries on the experimented tree began evidently to swell faster than those on the other, and, by the beginning of *September*, showed indications of approaching ripeness; while the fruit of the unexperimented tree continued green and small. In the beginning of *October*, the fruit on the tree that had the bark removed from it was quite ripe; the other only just began to show a disposition to ripen, for the bunches were shortly afterwards destroyed by the autumnal frosts. In every case in which circles of bark were removed, I invariably found that the fruit not only ripened earlier, but the berries were considerably larger than usual, and more highly flavoured.

The effects thus produced, I can account for only by adopting Mr Knight's theory of the downward circulation of the sap, the truth of which these experiments, in my opinion, tend strongly to confirm. I therefore imagine, by cutting through the cortex and liber, without wounding the alburnum, that the descent of that portion of the sap which has undergone preparation in the leaf is obstructed, and confined in the branches situated above the incision; consequently, the fruit is better nourished, and its maturation hastened. It is certainly a considerable point gained in the

the culture of the vine, to be able to bring the fruit to perfection by a process so simple, and so easily performed. But, lest there should be any misconception in the foregoing statement, I will briefly describe the exact method to be followed by any person who may be desirous of trying this mode of ripening grapes. The best time for performing the operation on vines growing in the open air, is towards the end of *July*, or beginning of *August*; and it is a material point, not to let the removed circle of bark be too wide: from one to two eighths of an inch will be a space of sufficient width. The exposed alburnum will then be covered with new bark before the following winter; so that there will be no danger of injuring the future health of the tree.

It is not of much consequence in what part of the tree the incision is made; but, in case the trunk is very large, I should then recommend, that the circles be made in the smaller branches.

It is to be observed, that all shoots which come out from the root of the vine, or from the front of the trunk situated *below* the incision, must be removed as often as they appear, unless bearing wood is particularly wanted to fill up the lower part of the wall, in which case one or two shoots may be left.

Vines growing in forcing houses are equally improved in point of size and flavour, as well as made to ripen earlier by taking away circles of bark. The time for doing this, is when the fruit is set, and the berries are about the size of small shot. The removed circles may here be made wider than on vines growing in the open air, as the bark is sooner renewed in forcing-houses, owing to the warmth and moisture in those places. Half an inch will not be too great a width to take off in a circle from a vigorous growing vine; but I do not recommend the operation to be performed at all in weak trees.

I think that this practice may be extended to other fruits, so as to hasten their maturity, especially *figs*, in which there is a most abundant flow of returning sap; and it demonstrates to us, why old trees are more disposed to bear fruit than young ones. Miller informs us, that the vineyards in *Italy* are thought to improve every year by age, till they are fifty years old. It therefore appears to me, that nature, in the course of time, produces effects similar to what I have above recommended to be done by art. For, as trees become old, the returning vessels do not convey the sap into the roots with the same facility they did when young. Thus, by occasionally removing circles of bark, we only anticipate the process of nature. In both cases, a stagnation of the true sap is obtained in the fruiting branches, and the redundant nutriment then passes into the fruit.

I have sometimes found, that after the circle of bark has been

removed, *a small portion of the inner bark has adhered to the alburnum.* It is of the utmost importance to remove this, though ever so small; otherwise, in a very short space of time, the communication is again established with the root, and little or no effect produced. Therefore, in about ten days after the first operation has been performed, I generally look at the part from whence the bark was removed, and separate any small portion which may have escaped the knife the first time.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Optic Square.

SIR, *East Lothian, 1st July,* 1809.

AT a period when so much attention is paid to improvements in Agriculture; so many great rewards held out for the invention of its implements; and such exertions of course used for their discovery, I am persuaded that every hint which can tend to its advantage—information of every instrument applicable to any of its operations, must be acceptable to you and your readers.

I conceive it almost equally meritorious to discover the application of an instrument (already invented) to the purposes of agriculture, as to invent a new one. Under this impression I introduce the *Optic Square* to your notice.

This instrument was originally invented for, and applied to military purposes alone. It was used for squaring off encampments; and, for that purpose, nothing can be more convenient, or more correct. It consists, apparently, of one circular brass box, about two inches diameter, and one deep, with two mirrors within; all of which, together, scarcely amount to four ounces avoirdupois weight: it may therefore be carried in the pocket, at any time, without inconvenience. The box, though seemingly one, has a counterpart, which serves as a cover. It has three apertures in its side; one of which is round, for the eye; the other two of a square form. The cover turns round; and, having three openings perfectly similar to those in the box, it is fitted for observations when these correspond, like to like, so as to be *seen through*, and admit reflected objects to enter. The cover is chiefly for keeping the mirrors clean. To use it, let a pole, or any object, be supposed on the left hand of the observer. He must hold the box between the fingers and thumb of the right hand, and put the round hole to his eye—the larger square one at the side next the pole—and look straight forwards. The pole will be reflected from the larger mirror, on the right, to the smaller one opposite

poſite the eye, on the under ſide of the opening. Over top of this laſt is a plain glaſs, through which is ſeen the open fields; and, if one is appointed to attend with a pole in that direction, he can, by ſignal, place it on the line of the image of the one reflected; and it will be found at right angles with the line from the eye of the obſerver, to the other pole. If he turns his left hand to this laſt ſet pole, and orders another to be fixed before him by means of *its image*, the firſt and third pole will be found exactly in a line with his ſtation; and is a moſt effectual method of proving the correctneſs of the inſtrument. When it is neceſſary to drive a perpendicular from a pole on the right hand, the box inverted muſt be held in the left hand, with the greater ſquare opening to the right. The ſmaller mirror being now *above* the plain glaſs, the image of the pole muſt be looked for there, and directions given for placing other poles, as above.

This optical inſtrument is admirably fitted for taking the moſt extenſive off-ſets in land-meaſuring; and with great correctneſs ſupplies the place of the theodolite, or any mathematical inſtrument for that end. By means of the Optic Square, too, a right-lined figure of any ſize can be meaſured with the utmoſt accuracy in the ſhorteſt time, by taking one diagonal and two off-ſets. The calculation by theſe lines *actually measured* muſt evidently be more correct than finding them by protraction, and aſcertaining the content by common arithmetic, or even by the ſhorter proceſs of logarithms. One ſpecimen ſhall be given by the figure annexed. Within its comprehenſive range will be ſeen very diſtant hills, and other notable objects: and beſides the many other purpoſes to which it may be applied, it will be found a good amuſement to try the accuracy of general or more particular maps. But whatever may be the latent properties of this inſtrument, or to whatever purpoſes it may have been actually applied, there are certainly none of ſuch real utility as thoſe for which I now recommend it. When the buſineſs of the farmer can be facilitated, and rendered more expeditious by ſimple means, it muſt certainly be conſidered an improvement. It is well known what time is loſt in ſtraighting land, or forming it into ridges, when, by croſs ploughings, harrowings, &c. it is thrown into one complete level. It is alſo admitted on all hands, that if croſs ploughing, harrowing, rolling, &c. are not done in parallel veerings, the labour is increaſed, or the time of executing it protracted. Now, to remove theſe evils—to render all this fatiguing work an eaſy amuſement, even for the *fattest farmer*, is the object of this eſſay.

I ſhall endeavour to give ſuch further directions for uſing the Optic Square, that none need be at a loſs to apply it to practical purpoſes, when occaſion offers.

Let

Let A L be a right-lined field to be croſs-ploughed by the veerings A B, C D, E F, &c. It is common to lay off theſe veerings at 24 ells diſtant from each other, by pacing; but, as 24 ells make a Scotch chain, the diviſions here ſhall be made by the chain, which does not prevent any perſon to uſe paces. From the line A B, lay off at A 12½ links to *a* (exactly 3 ells). Place a pole with a white flag on it at O, and ſend one (even a boy) with what poles may be moſt convenient at the time, to wait ſignals between B and D. Let the obſerver place himſelf at *a*; and, turning the large ſquare opening towards O, he will find the image of the pole O reflected on the ſmall mirror right before him. By ſignals with the hand, the boy can be directed to place a pole in the line of that image, which will be at *b*. Lay off A C, C E, E G, &c. each one chain diſtant from another. Let C, E, G, I, &c. be ſucceſſively taken as ſtations from which to direct, in the way above deſcribed, the place of the poles D, F, H, K, &c. Except a few poles at D, F, H, &c. for immediate ploughing, all the other parallel ſtations, K, &c. can be marked by ſmall wooden pins or ſtones, as moſt convenient. Let the veerings *a b* and C D be ploughed. The firſt is 25 links broad, the ſecond 50, or half a chain, (12 ells). Theſe are ſufficient for what we call the happings (offings), or done by the horſes turning *off the* DRIVER, (a term once in exiſtence, but now only ideal.) It will then be found that the unploughed ſpace between the veerings *a b* and C D, is 50 links or 12 ells, which, being winded out, or done by the horſe coming conſtantly TO *the driver*, will make the veering *a b* = 12 ells; and when the ſpaces between C D and E F are ploughed out, C D will be one chain broad; and every ſucceeding veering will be equal in breadth to that of C D. If the field is to be croſs-harrowed, two or three parallel veerings, as at S T and U V, may ſuffice. One head of harrows may proceed from S T to A B; another from S T to U V; and a third from U V to X L, which is all the ſquare part of the field. Rolling would require ſpaces like ploughing; but every man may do in theſe things as circumſtances direct to his own mind. Some *correct farmers*, in ſtoning young graſs during the ſpring, lay up the ſtones in parallel rows acroſs the field, for the more eaſily admitting of rolling, which muſt be done commonly before they be lifted. By this method, which is much to be approven of, the land can be wholly rolled, except the ſpots on which the heaps lye. It is an eaſy matter to apply the Optic Square to fix theſe lines.

The fallow which the figure repreſents being now ſuppoſed level, and ready for ridging up, the farmer may begin at *f* (but no matter which ſide); and, laying off a nine feet ſpace, or half of what he propoſes for the breadth of his ridge, towards *h*, where

a pole is ſuppoſed to ſtand, he has only to raiſe the inſtrument to his eye; and, by reflecting the pole *g* towards L, may by ſignal fix one pole on the line L O at *i*; but this buſineſs may be done by marking at both ends of the line; and the furrows can be drawn afterwards. When matters are thus prepared, any boy who knows his right hand from his left can with eaſe keep two ploughs drawing the furrows, in the following manner. This method I commonly adopt in preference to every other. It is thus. Let *h i*, *k l*, *m n*, *o p*, repreſent the crowns of four ridges to be veered and gathered. Let one plough be ready to ſtart at *h* for *i*; and another at *l* for *k*. A pole muſt be previouſly fixed at *i*, and another at *k*; and the boy, by ſignal from the man at *h*, plants a pole at *q*; and, by a ſignal from the man at *l*, another at *r*; then both ploughs proceed till they have changed ſtations. The plough at *i* proceeds to *n*; and the pole-man places a pole in the line of *n m*; the one at *k* proceeds to *o*; and another pole is fixed in the line *o* and *n*; the poles *q* and *r* always ſhifting as occaſion requires. Thus the two ploughs proceed, till the whole field is ſtreighted off, and prepared for ploughing. The croſs furrows may be drawn by two ploughs the ſame way, after being marked.

It now remains to ſhow the method by which any farmer may, with the leaſt poſſible trouble, aſcertain the acres in any right-lined field.

Plant a pole at O, and another any where, as at Y, directly on the line of B O. Meaſure the line B O 20.24. Stand about R, looking through the optic ſquare to A; and, where the reflection from the poles Y O quadrates with A, place a mark where you ſtand. Place alſo a mark at Q, where theſe poles will be found to quadrate with L; and, having meaſured B O, walk to L with the chain. Meaſure L Q = 7.03, and R A = 8.67, which together, is - - - = 15.70 chains.
Half the diagonal B O - = 10.12

Their product is - - 158.884 ſquare chains.
And, by ſhifting the point, is - 15.884 acres,
or 15 acres, 3 roods, 22 falls. The meaſure may be eaſily aſcertained, though one or more of the ſides aſſume the form of L ‡ O. For L O × ½ Z ‡ will require to be added to the field comprehended within the ſtraight lines thus.

	A.	R.	F.	YDS.
Firſt or main figure meaſures -	15	3	22	0
And L O = 10.74 × ½ Z †, viz. 1.26 = 1.35324, acres, or = - - -	1	1	16	14
Total	17	0	38	14

One

One a little acquainted with meaſuring can reap great advantage from the uſe of this inſtrument, in meaſuring fields of *any form.*

I muſt now obſerve, that at firſt it requires ſome care and attention to diſcover the reflection of an object on the mirrors; but a little practice will make it ſo eaſy, that with one glance it will be ſeen; and the uſe of the inſtrument found to be both eaſy and pleaſant.

The inſtrument I have uſed for a long time was made by Meſſrs Miller & Adie, mathematical inſtrument makers, Edinburgh; and, being extremely accurate in its reflections, I can with confidence recommend theſe gentlemen for ſupplying all who wiſh to avail themſelves of ſuch an uſeful inſtrument. Indeed, without being accurately conſtructed, it is *good for nothing.* It requires very great attention to do this properly; they are done on the optical principle of the 'angle of incidence being equal to the angle of reflection.' At whatever part of the large aperture the rays are admitted, they are reflected upon a correſpondent part of the ſmall mirror; and the reflected image is always at right angles to the line of the reflected object from the eye. I am not perſonally acquainted with Meſſrs Miller and Adie; but I recommend them as optical inſtrument makers from actual experience; and believe they will not put one off their hands before it is capable of undergoing the ſtricteſt trial of its accuracy in the manner above preſcribed.

I am, Sir, your moſt obedient ſervant,

PHIL-OPTICUS.

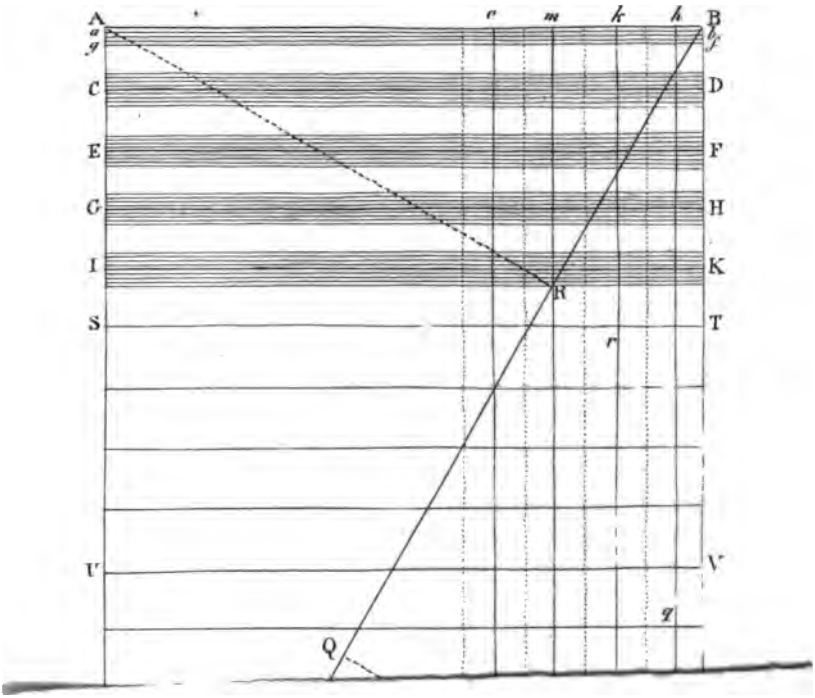
P. S. I neglected to mention the method of proving the accuracy of maps.—Take any eminence marked in a *county map, for example,* (ſuppoſe a ſignal poſt). Every two places, which, with the optic ſquare, quadrate with that ſtation, muſt do ſo in the map. I have tried the map of this county, done by Mr Forreſt, and found it *uncommonly correct.*

[THE following ingenious remarks by the late Profeſſor Robiſon, on the Conſtruction and Hanging of Gates, were lately ſent us. It is unneceſſary to ſtate, that they were drawn up by the Profeſſor after Mr Parker's letter on that ſubject appeared in our Magazine.]

SIR,

I HAVE conſidered the conſtruction of the gate mentioned Vol. IV. p. 180 of the Farmer's Magazine, with ſome care, and ſhall give you my opinion of it with great frankneſs. Many of the leſs obvious, and more delicate circumſtances of the conſtruction, are

A. Ray from an Object falling on the large mirror B by which it is reflected to the small mirror C. the under half of which is silvered. the upper part transparent. from C it is reflected to the Eye at E. where it is seen to coincide with the Object D seen directly through the transparent part of C.

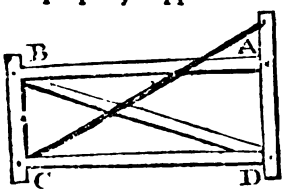


angle retain their lengths, the angles remain unalterable.

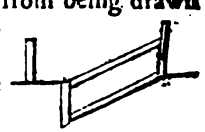
give you my opinion of it with great [illegible]
obvious, and more delicate circumſtances of the conſtruction, are

are very judiciouſly conſidered. They are ſuch as do not ſtrike the minds of country wrights, yet are of importance to its good performance. Such are the *preciſe* poſitions of the thimbles (as the author calls them), on which depends the gate's tendency to ſhut, and its ſhutting in all points at once—this conduces much to the durability of the gate. But it would have been eaſier executed by ignorant tradeſmen, if the meaſures had been properly given, without mixing ſo much mechanical reaſoning, which few will underſtand.

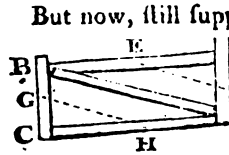
The great defect of the gate is, that its overhanging weight is not properly ſupported. The two rails, A B and D C, are of the ſame ſcantling with the uprights. The other pieces are only laths, to fill up the ſpace, and prevent calves, ſheep, and lambs, from getting through. Theſe two rails are mortiſed into the uprights. The whole ſtrain, therefore, is borne by the mortiſes A, D, and, in a very ſmall degree, by the mortiſes C, B. Now, unfortunately, it is in theſe joints that gates fail. Though put together in the drieſt ſtate, and the joints ſecured by daubing the tenons with a coat of white paint before they are put in; and though very hard driven in, yet it is well known that all timber work ſhrinks after working. The joints ſhrink unequally, and water gets in, and there lodges and ſoaks into the wood, and ſoftens it, and in time rots it; and the gate ſinks down at the end B C. More rails, mortiſed in the ſame manner, will make the gate ſtronger—but heavier, almoſt in the ſame proportion.



There are but two ways of preventing ſuch a gate from dropping at the end B C. The end muſt either be truſſed, by a diagonal brace from B to D; or it muſt be ſuſpended, by a diagonal tye from A to C. If either of theſe be done, the joints at the corners may be as moveable as the hinges of a door; and will only need a pin to hinder the mortiſes at A and C from being drawn out. Suppoſe the joints to be really hinges—then it is plain that, without a diagonal, the gate will hang thus; for it will take the ſhape of any oblique parallelogram.

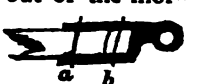


But now, ſtill ſuppoſing the hinges perfectly moveable, let there be a brace, B D, butting firmly on the upper rail, at B, and on the upright A D at D, it is plain that the point B cannot deſcend without cruſhing B D, or ſtretching A B; for, when the three ſides of a triangle retain their lengths, the angles remain unalterable.



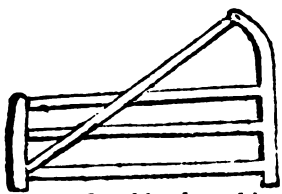
gate drawn in the Magazine *seems* to have this ſupport; but it is only ſeeming; for the oblique piece B D is only a thin lath, which will eaſily bend outwards by a load laid on B; and, when once bent outwards, it will ſoon ſnap. In order that B D act as a truſs or brace, it muſt be firmly abutted on the heel of the upright A D, and on the under ſide of the rail at B, thus. This brace muſt be as thick as any of the rails or uprights. It will not be quite ſo ſtrong if abutted on the upright B C; and it then tends to puſh the head of the upright off from the tenon of the rail. Another brace, E F, will ſtrengthen the ſupport *conſiderably*. One at G F gives no help: it only ſerves to fill up an opening. But E F and G H are quite unneceſſary for the ſtrength of the gate; for it is impoſſible for the point B to ſink without ſhortening B D, or pulling the gate poſt on which it hangs, out of the perpendicular. The open triangular ſpaces A B D and B C D may be filled up by horizontal or perpendicular laths, planted on the ſtrong uprights and rails. Perpendicular ones are beſt; becauſe ſhorteſt, and not ſo flexible: Horizontal ones look better; but muſt be ſtiffened by two pieces, perpendicular, as in the Magazine.

The iron ſtrap, in the figure, which goes along the upper ſide of the upper rail, and is, in fact, the continuation of the upper thimble, will be of conſiderable ſervice in my conſtruction, if it go through the head B, and be firmly bolted to the upright B C; for it will prevent the tenon A from being drawn out of the mortiſe. But this ſervice will be as well performed by making the thimble of this form, embracing the head A of the upright, and about a foot of the rail; and having a bolt *a*, through the rail, and another, *b*, through the upright, ſerving as a pin for the tenon and mortiſe. The long ſtrap is of no ſervice whatever in the conſtruction repreſented in the print.



The other way of ſupporting the overhanging weight of the gate, is by means of a diagonal *tye*; and this is the moſt obvious, the eaſieſt, the lighteſt, and the ſtrongeſt of all. An iron ſtrap, an inch broad, and half an inch thick, firmly bolted into the head A and the heel C, will ſupport a load of more than five tons laid on B. Therefore, a ſlender ſtrap on each ſide of the gate, bolted through it, will be the neateſt way of hanging it. Such a gate cannot droop at the outer end, even though all the joints were looſe, unleſs the upright poſt be drawn out of the perpendicular. The open ſpace of the parallelogram may be filled up, either horizontally or vertically, by laths. The higher that the upper end of this ſtrap can be placed at A, the ſtronger will the gate be. Therefore, it is a great advantage to have the upright A D a good deal

deal longer than the other. Nor does this make the ſmalleſt odds on the ſtrain on the gate-poſt on which it is hung: the ignorant only think otherwiſe; yet it is a very general opinion. The old-faſhioned form of a farmer's field-gate is ſtill by far the beſt of any; and has ſuch an expreſſion of its efficacy in its very form, that it appears more beautiful to me than any other. A landſcape painter ſhould never introduce any other. There is nothing to hinder all the niceties in Mr Parker's plan from being ſtrictly obſerved. I may juſt add, that this conſtruction (I mean a tye rather than a brace) is the only one that can be executed without a blunder by the moſt ignorant, and with the rougheſt materials; while, at the ſame time, it admits of every nicety of improvement. The country wright would do well to read the article *Carpentry* in the ſupplement of the Cyclopædia Britannica. There is much of it that he will not underſtand, indeed; but there is alſo much which he will perfectly comprehend. I have been too prolix in this diſcuſſion, perhaps; but I wiſhed to make things as obvious as poſſible to the moſt uninformed. I am ſo much occupied at preſent, that I cannot undertake to deſcribe what I think the beſt manner of forming all the minutiæ, and particularly the faſtenings of the different parts of gates of all kinds. Some other day I ſhall conſider the ſubject attentively, and ſhall let you know the reſult.



I am, Sir, your moſt obedient ſervant,

May 21*ſt*, 1803. J. Robison.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Winter Management of Cattle.

Sir,

The winter management of cattle is a subject of considerable importance to the practical agriculturist, as by its arrangement his annual gains are not only much influenced, but the quantity and quality of his manure also in a great measure regulated. Viewing the subject as worthy of some consideration, I crave your patience when offering the following desultory remarks upon the most approved methods of keeping cattle during the winter and spring seasons.

In the *first* place, the great body of corn farmers (and it is their management that I mean to notice) generally purchase their stock of cattle annually, and either feed them off with turnips, or keep them through the winter upon straw and a few turnips, till the grass season arrives. Doubts have been entertained by many

many people, whether it is most beneficial to stall-feed with turnips, or to keep the cattle in open yards, where they receive their food in troughs or boxes, and partake of air and exercise, which is always agreeable to every animal. Without investigating these points, it may be stated, that whether the last mentioned plan be or be not most profitable to the farmer, it is undoubtedly most conducive to the health of the animal, consequently better calculated to furnish the public with more sound and wholesome beef than what is supplied by the stall-feeders. But it must be noticed, that if cattle are to be fed in the yard, very few ought to be put together; perhaps more than six should not be placed in one lot; and care used to select these of equal sizes and tempers. From these things it will appear, that feeding in the yard has its inconveniences: in short, a great number of yards, or *courtines*, as they are called in Berwickshire, are necessary where this system is adopted upon any thing like the great scale; though, after all, it is attended with many advantages. In no other way can a large quantity of rich manure be so speedily and completely manufactured, especially on farms where straw is a plentiful article. So sensible of these things are many farmers who possess clay soils, that they often force a crop of turnips, merely for the purpose of converting their straw into dung, notwithstanding that, in their situation, a crop of turnips can rarely be cultivated with advantage.

In the *second* place, the practice of wintering cattle in the straw, that are to be fed off upon the pastures, or kept in the soiling yards through the following summer, has of late been vastly improved. Formerly, it was customary to give the poor animals nothing but straw; and a great point was considered to be gained, when they were preserved in the same condition through the wintering process, as when put into the straw yard. This, however, rarely happened; as the cattle generally fell off so much in the spring months, after the straw was dry, and deprived in a great degree of its nutritive powers, as to be rendered incapable of taking on flesh till their blood was completely renovated by a supply of grass. Hence, one month at least, and that at a time when grass was at its best, was usually lost, before the slightest improvement could be discovered; whereas, in the modern way of keeping cattle, improvement takes place from the outset; and they are much more speedily and effectually fattened in a few months, than was practicable under the former system, however diligently exercised.

If turnips are plentiful, the best farmers give cattle a tasting of them from the day they enter the straw yard; increasing the quantity as the season advances, or as the straw loses its nutritive powers.

powers. Perhaps two double-cart loads of turnips, weighing 15 cwt. each, or thereby, may do very well for the daily supply of a score of cattle, whose weight does not exceed thirty-five Amsterdam stones each: but, after Candlemas, three cart-loads will be required, in case circumstances permit such a supply to be furnished. If turnips are scarce, as often happens on clay soils, many farmers are in the habit of withholding green food till January or February; and if the cattle are regularly supplied after that period, the want of turnips through winter will not be sensibly felt, in so far as respects their condition when turned out to the pastures. But, with regard to the quantity and quality of dung, the want of turnip feeding is of incalculable loss: hence every farmer strives to grow turnips, though many, who attempt that branch of culture, are quite satisfied that it would be more for their interest, in the first instance, to clean the land by a bare summer fallow. In other words, a partial evil is submitted to, in order that a great advantage may afterwards be obtained.

If these loose remarks can be of any use, you are at liberty to insert them in your publication. And I am yours, &c.

ARATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Human Exuviæ and Soil-Holes.

SIR,

IN adding to the hints of your correspondent *Glaucus*, in last Number, I do not think it necessary to follow him in his sort of half apology for commenting on stercoraceous subjects. It would be ridiculous to suppose that the readers of the Farmer's Magazine will regard any discussion as repulsive which is connected with the improvement of their art; and, in truth, none but the 'musty ideas' of 'nice people' will ever find any thing repellent in discussions (with due periphrasis, to be sure) connected with the Cloacinean Goddess. This letter then, Sir, (not to offend your more squeamish readers with calling things by their right names), will treat of human *exuviæ* and *soil-holes*.

Ideas similar to those which have been urged by *Glaucus* and by Dr Hunter in one of your early volumes, relative to the importance of collecting these exuviæ more carefully, have often struck me. There can be little doubt that the annual *ejectamenta* of an individual, if properly applied to an acre of soil wanting manure, would enable it to produce a quarter more of grain of any kind, than without this application; but, to be within the mark, let us say one fourth of this, or two bushels; the value of which we will call ten shillings. The amount, then, to which, by this application, the national wealth may be reasonably sup-

posed capable of being annually extended, is, in the whole empire, no less than eight millions of pounds. Now, what proportion of this manure may we conjecture to be at present profitably applied? In the country, doubtless, the greater part, and in many large towns a partial proportion. But, in some of our most populous cities, there is reason to believe that nine tenths of this manure is utterly wasted. On the whole, it may be fairly assumed, that not more than one half is profitably applied. By this neglect, therefore, a national loss of four millions is annually sustained. Is it not worth while to inquire how this may be avoided, even though at the risk of turning the stomachs of some over nice readers?

The first question to be resolved, is, In what way are the human exuviæ of our great cities wasted? Generally, of course, by being conveyed into the common sewers, and from thence to fatten the *fuci* in the ocean, instead of augmenting the produce of our fields and pastures. The *bogs* of London seem commonly to communicate with the sewers: but I confess I was always puzzled to guess whither the pipes of the *water-closets*, now so frequent, are conveyed. I conclude, however, to the same quarter.—How is this waste to be remedied? The rich will doubtless continue their water-closets. If they communicate, therefore, with the sewers, their contents must be wasted. The *bogs* might perhaps be abolished, and more economical repositories provided. The mode may be best explained by detailing the practice in this respect at a neighbouring town, where there are not, I venture to say, ten cart-loads of human exuviæ wasted in a twelvemonth.

In Hull, the place I allude to, every house is provided with a soil-hole. This is a *sine qua non* to the meanest tenement, and the very first *desideratum* that a builder considers essential. None of these communicate with the sewers. They are usually very small, and with but one seat; in the front of which is an opening, closed in common by a square board, which fits pretty accurately, and is fastened by two wooden buttons or nuts. The button is made to slant a little towards the back of the building; but is rarely more than a few inches below the floor. Into this seat all the ashes made by the family are constantly thrown. The consequence is, that the exuviæ are so completely neutralized, that no offensive smell is felt, though they are often built close by the back-doors in very confined yards. The dustmen, as they are called, of whom many have accumulated considerable fortunes, send their carts and men every two or three days, to clean out these soil-holes. This is effected by merely opening the front board, and shovelling the contents into a tub, which is emptied into a cart. So completely is every thing fluid absorbed by the ashes,

ashes, that no dirt is made by this process, nor is it at all offensive to pass one of these carts in the street:—you merely see what appears to be a load of ashes. This manure is eagerly bought by the adjoining farmers; and often shipped and sent up the rivers to a great distance. Of course, the price is high; and the dustmen consider it a *favour* to be allowed to clean out a soil-hole gratis. They never think of demanding money; and often, I believe, *give* a gratuity to the servants. How should they do otherwise, indeed, when they sell this manure for six and seven shillings a cart-load of about a ton? This price I paid some years ago for two lighters-full, the freight of which was as much more. Now, I believe, it is higher. As a proof of the value set upon manure at Hull, it may be stated, that the Magistrates have more than once published threats of punishment to those who should secretly *sweep the streets*, to the injury of the scavengers who had contracted to clean them; and that there is quite a competition amongst children with wheelbarrows, and old men with carts and asses, who traverse the town, carefully sweeping up every heap of horse-dung casually dropped.

The general adoption, in large towns, of the practicable system above detailed, would fully answer the wishes of *Glaucus*; would create a vast annual accession of national wealth; and would supplant the '*ha'd your hand*' nuisances which are experienced in some places. Still, however, a vast quantity of valuable manure will always be conveyed to waste down the sewers of a large city. To turn this to account, the plan proposed by Dr Hunter is very feasible. Let the outlets of such sewers be surrounded with reservoirs constantly furnished with a succession of absorbent materials, that would drink up the precious fluid as fast as it arrived. Nothing could make better manure than such a saturated mass.

I approve highly of Glaucus's plan for building public soil-holes: there should be such in every large town. That they might be kept clean, they should be superintended by some poor person; and a fee paid for entering them. In such a place as London, where the inhabitants are often for half a day at a distance from home, I know of few greater accommodations that could be proposed, than to have a range of such buildings in the neighbourhood of every great street. That they would pay admirably, I have no doubt. A traveller in France during the late peace, told us, that such erections exist in Paris; and that they are quite a fortune to the proprietor. The difficulty, in such a place as London, would be to find suitable stations: but this might be got over. They should not, of course, be in front of a good street, but down some adjoining lane or alley, over which a sign, inscribed, '*To the Cloacinean Temple,*' would give the

necessary information in unobjectionable language. For, with all our delicacy, Mr Editor, it is not things but *names* that offend us. A fine lady can talk about her lover's *inexpressibles*, when she would faint to hear of his breeches; and, by means of a little similar periphrasis, the most gross actions may be mentioned without offence in very refined society.

If such accommodations be wanted in London, what must they be in Edinburgh? I never talked with an English traveller who had visited Scotland, that did not represent the want of *temples*, in which he could offer up his vows to Cloacina, as one of the most serious miseries that befel him. A friend of mine assured me, that, on this very account, he walked, rain or fair, every day of a whole year which he spent in Edinburgh, to Leith; on the pier of which I understand is a suite of these buildings. Another friend told me, that these desiderata constantly marred the otherwise extraordinary pleasure which he derived from a tour through Scotland; and that nothing could equal his horror, when, at Lord B——'s, and troubled with an intestinal commotion, to be told, in answer to his inquiries for a water-closet, 'that the gentlemen usually went behind yon hill,' pointing to a spot two hundred yards distant. These may seem petty miseries; but these little things are great to little men; at least to those who at home cannot enter the meanest cottage without finding the accommodation which Lord B——'s country-seat denied. This, however, has reference to a part of the question on which I do not mean to dwell. But it is very obvious, that an immense quantity of valuable manure might be obtained by the general erection of these buildings in great towns.

Not less profit would accrue from making cisterns at the corners of every street for the reception of urinary *ejectamenta*. I know not how it may be in Edinburgh; but in London a man may sometimes walk a mile before he can meet with a suitable corner; for so unaccommodating are the owners of door-ways, passages and angles, that they seem to have exhausted invention in the ridiculous barricadoes and shelves, grooved, and one fixed above another, to conduct the stream into the shoes of the luckless wight who shall dare to profane the intrenchments. It has often struck me, while laughing at these ingenious contrivances, that the money which they cost, if expended in the erection of cisterns, would have answered the same end, in preventing a nuisance, and would have saved a vast annual source of wealth.

In concluding, I wish to ask *Glaucus*, or any of your correspondents, if the experiment has been tried, whether human exuviæ are the most active manure in a dry or wet state. Of course, I should have concluded the latter, did not the Chinese, who are pretty acute in these points, often use them in the former

mer state. Perhaps this is done when the land lies at a distance, to save carriage; and the same consideration, if the manure is as effectual, would often be of great importance in this country.

I am, Sir, your most obedient Servant,

COPROPHILUS.

B———, near Hull, Oct. 9th, 1809.

FOR THE FARMER'S MAGAZINE.

Observations on the Causes, Prevention, and Cure of the Foot-Rot in Sheep.

OF all the animals with which Divine Providence has stored the world for the use of man, none are more innocent, more useful, or more profitable, than the sheep. To this valuable animal we are indebted both for food and clothing; and the manufacture of its wool furnishes employment to millions of the community. In short, it would be difficult to specify a single luxury or convenience of life to which this useful animal does not contribute a liberal proportion. Inasmuch as the stock of domestic animals in a country is justly esteemed one of the principal sources of its wealth and prosperity; and every circumstance that materially tends to diminish their number, or to decrease their value, must be attended with positive loss to the community,—inquiries regarding their diseases, and the means of their prevention and cure, are subjects peculiarly entitled to public attention and encouragement.

Those who are supposed to possess the best opportunities of information, have calculated the number of 'fleece-bearing animals,' in Great Britain and Ireland, at about thirty millions; and that, of these, from three to four millions annually die of disease. The annual loss, at an average, from this cause, may thus be safely estimated at three millions Sterling! A loss of such serious importance to the community, imperatively demands, that every possible encouragement should be held out for discovering remedies best calculated for the prevention and removal of the various maladies to which this valuable animal is subjected, with whose welfare our unrivalled commerce and national glory are so inseparably connected.

'Les plus grands medecins,' says Daubenton, 'doivent rechercher avec soin le cause et le remède d'un mal, qui menace de detruire des animaux utiles à toutes les nations; et principalement à celles qui savent employer la laine pour les plus beaux ouvrages.'

Should the following hints regarding the causes, prevention and cure of the foot-rot in sheep, in any way tend to promote this laudable design, the writer will be satisfied that he has not 'laboured in vain.'

Foot-rot is a suppuration in the glands, between and above the hoofs of sheep; and bears a very striking analogy to chilblains in the human species. It commonly affects the fore-feet, but sometimes extends to all four. The external part of the hoof is the usual seat of the disease: an acrid and fœtid humor exudes from the cleft, which corrodes the flesh, and sometimes even the bone. When unchecked in its progress, the inflammation around the hoof becomes black, and degenerates into a foul and tedious ulcer, occasioning excruciating pain to the animal, not only rendering it lame, but forcing it to walk on its knees; and, in many instances, the hoofs drop off altogether. It is seldom observed on dry, clean sheep-walks; but, on the contrary, is most troublesome on wet, soft and dirty pasture. This disease appears most frequently in the month of August; very seldom during the winter or spring; and is more frequent among long than short-woolled sheep. It may, however, occur at any season, if the animal is frequently exposed to the vicissitudes of heat and cold, and the sudden alternations of wet and dry pastures.

Cause of the Distemper.

With respect to the proximate cause of the foot-rot in sheep, there have been various opinions. It has been imputed to a peculiar acrimony, of which, however, there is no evidence; and the consideration of the remote causes, the symptoms and cure, render it extremely improbable.

Others, who cannot find either evidence or reason for supposing that the disease depends on any change in the state of the fluids of the animal, have, with more probability, concluded that the proximate cause of it is, the sheep being kept on a wet soil, and by feeding alternately on wet and dry ground, in warm weather, with the common exception of salt-marsh and peat-moss, where sheep are seldom subject to the foot-rot.

But, from whatever cause or causes this disease may originate, the means of prevention and cure are the great and primary objects of investigation.

Prevention and Cure.

On suspected grounds, Mr Lawrence, in his treatise on cattle, judiciously recommends constant and careful examination; and, when any fissures or cracks, attended with heat, make their appearance, to apply oil of turpentine and common brandy. This, in general, produces a very beneficial effect; but, where the disease has been long seated, and become, in a manner, confirmed, —after cleansing the foot, and paring away the infected parts, recourse is had to caustics, of which the best seem to be sulphuric acid and the nitrate of mercury. After this, pledgets are applied, the

the foot bound up, and the animal kept in a clean, dry situation, until its recovery is effected.

But it often happens, where the malady is inveterate, that the disease refuses to yield to any, or all of the above prescriptions.

The following mode of treatment, however, if carefully attended to, may be depended upon as a certain cure. Whenever the disease makes its appearance, let the foot be carefully examined, and the diseased part well washed, and pared as nigh as possible not to make it bleed; and let the floor of the house where the sheep are confined, be strewn three or four inches thick with quicklime hot from the kiln; and the sheep, after having their feet dressed in the manner above described, to stand in it during the space of six or seven hours.

In all cases, it is of great importance, that the animal be afterwards exposed only to a moderate temperature—be invigorated with proper food—and kept in clean, easy, dry pasture; and the disease will be effectually remedied in the course of a few days.

G. F. H.

Edinburgh, 2d Oct. 1809.

FOR THE FARMER'S MAGAZINE.

Letter from W. Richardson, D.D., late Fellow, Trinity College, Dublin, to Thomas Allen Esq., containing Facts and Observations relative to the Variety of Irish Grass called FIORIN.

SIR,

IN compliance with your requeſt, I ſhall throw together ſome facts and obſervations on the ſubject of our Iriſh *Fiorin Graſs*, (whoſe luxuriance you admired ſo much at PORTRUSH in the courſe of your late tour), ſelecting, as well as I can, ſuch circumſtances as I have ſlightly or not at all touched upon in my former publications relative to this very extraordinary graſs.

The attention ſhown to ſuch of theſe as have already reached your country, is very gratifying; and the experiments making upon fiorin, or rather the attempt to cultivate it about EDINBURGH, are to me highly flattering, and lay me under an obligation of aiding ſuch ſpirited efforts with every cooperation in my power.

The condition I lay myſelf under of ſearching for *new* matter, muſt neceſſarily make this communication ſomewhat deſultory; but, even ſo, ſhould you think fit to preſent it to the FARMER'S MAGAZINE, I readily conſent.

PORTRUSH FIORIN CROPS.

I ſhall commence (for the encouragement of thoſe who live in bleak ſituations) with the hiſtory of the ſtripe of meadow I ſhowed you at *Portrush*, little more than one hundred yards from the rocky ſhore of the Northern Ocean.

The ground, raiſed by Nature a little above the level of the meadow, which I had got poſſeſſion of five or ſix years ago, was ſo light, dry and poor, that, in 1805 and 1806, I did not conſider it as worth mowing, but left its crop ſtanding, to be eaten with the aftergraſs with the reſt of the meadow, when my cattle ſhould be turned in.

In the year 1807, deſirous to bring this unproductive part of my field into a profitable ſtate, I planted potatoes in it with the uſual quantity of dung; and when they were dug out late in September, laid it down with fiorin, having juſt at that time acquired ſome knowledge of the great value of this newly diſcovered graſs.

Late in September 1808, the ſtripe was mowed; and I then publiſhed, in an addition to the memoir honoured with a medal by the BOARD OF AGRICULTURE, the mower's affidavit, that it was the fineſt meadow he ever cut; and alſo the teſtimony of the Magiſtrate who adminiſtered the oath, that the crop ſeemed double the quantity uſually had on ſo much ground.

The ſame perſon has juſt now mowed it again, and thinks the preſent crop much better than that of laſt year, though very different; the ſtrings which compoſe the preſent crop being little more than one third of the length of thoſe he had cut before; but the deficiency in the length of the ſtrings of the ſecond year was more than compenſated by the prodigious increaſe of their number. The hay is now, September 23d 1809, in lap cocks; and the country people, who come to ſee it, are fully ſatisfied that I muſt have carried in hay at night from another place, to increaſe the quantity, for bravado.

The ſecond ſtripe at right angles to the former, whoſe ſhaking mat and enormous ſtrings ſurpriſed Mrs Allen and you ſo much, was circumſtanced and cultivated in the ſame way the following year. It was laid down in the middle of September 1808, in the preſence of EARLS O'NEIL and GOSFORD, then at my houſe; both theſe noblemen being anxious to witneſs the proceſs of laying down fiorin graſs, which, by that time, had acquired conſiderable celebrity.

Your inquiries were particularly directed to the proper ſeaſons for laying down a graſs, the accounts of whoſe enormous produce had ſometimes reached you in print, and of which you are now a competent judge yourſelf.

PROPER TIMES FOR LAYING DOWN FIORIN GRASS.

I have, on different occaſions, ſtated that fiorin graſs will thrive well if laid down with roots or ſtrings any day in the year.

I was certainly right, when looking only to the graſs itſelf; but, when crops are our object, other circumſtances muſt be taken into conſideration, and we muſt inquire what are the periods

of

of its enemies and competitors, and when will fiorin graſs encounter them at the greateſt advantage.

Here we muſt ſpeculate *a priori*, and look to the ſeparate natures of the rivals contending for poſſeſſion.

Fiorin is in perpetual vegetation; while the other graſſes and weeds it has to contend with, have only their paroxyſms of growth, and their periods of torpor.

Let us avail ourſelves of theſe oppoſite habits, and put down fiorin, when the powers of its competitors are not in action, and it probably will have acquired vigour enough to overpower them when they reſume their efforts, at firſt feeble.

I ſhall illuſtrate this by example.

Aware of the importance of the point to which you direct your inquiries, I determined to aſcertain it with preciſion; and in 1808, as I dug my potatoes; from the 1ſt of Auguſt, I, every third or fourth day, dreſſed and laid down the ground with fiorin ſtrings and roots, every one of which came on well; but unfortunately ſo did its ſpontaneous competitors.

I interfered and wed, but in vain; the promiſcuous vegetation came on with vigour; and the ſeedling graſſes were not diſtinguiſhable from the naſcent ſprouts of the fiorin.

Thus, though a ſingle root of fiorin had not failed, its rivals had got on ſo much better, that early in *July* I was obliged to mow an indiſcriminate fleece, of which the predominant graſs was *Holcus lanatus*.

What was put in later produced a very different reſult, viz. the magnificent crop I have mentioned, excluſively FIORIN. The reaſon is obvious;—the middle of September is (at leaſt in that harſh climate) too late for ſpontaneous vegetables to come forward with ſucceſs; of courſe, the fiorin was left in excluſive poſſeſſion until ſpring.

To return to your queſtion. I conſider, from the above and ſimilar obſervations, that the beſt months for putting down fiorin are *October*, *November*, and *December*; ſome of my fineſt crops were laid down on the 18th of the preceding December.

In *January*, *February*, and *March*, fiorin will come on well; even put down in April and May, if carefully wed, it will, in rich ground, give a tolerable crop that year.

FIORIN SEED.

You aſk, Does not fiorin graſs produce ſeed? and, if ſo, why not propagate by ſeed as with other graſſes?

Seed, no doubt, and in the greateſt abundance is produced; but the young tendril is ſo diminutive, and ſo ſlow of growth, that it is nearly impoſſible to protect it from weeds and other graſſes which do not mark their ſpecies early. With much difficulty I reared two or three ſmall ſpots from the ſeed; but, in extenſive practice, ſeed is inadmiſſible.

SOILS FIT FOR FIORIN CULTURE.

You were surprised at a position you had met with in some publication of mine, *that fiorin throve equally in all soils, the wettest and the driest.*

The term *equally*, in strictness, may have been improper. I meant equal health, but certainly not equal luxuriance.

I can confirm my revolting position by strong facts.

October 1806, in forming a new *hortus irriguus*, for experiments in irrigation, my dam flooded a ditch, containing many fiorin roots, not one of which was destroyed; they still continuing to send up their strings to the surface, after being covered for three years by water 20 inches deep; and they are carefully preserved for inspection.

Again, in April 1807, I planted a fiorin root on the top of my garden wall, ten feet high. At the time, I put some little earth about it, but never watered, or even approached it since; yet it has continued for three years in good health in that dry situation. I often, indeed, find fiorin roots growing on the rough sides of old walls, and particularly at the deserted Castle of BENBURB near me, and on Earl O'Neil's park wall.

In practice, through an extensive and much diversified farm, I have not yet found a single spot so wet, or so dry, that fiorin may not be (or rather has not been) cultivated to advantage on it.

I do not possess any light, loose, dry, sandy soil; yet am sanguine enough to expect, that a valuable crop of fiorin hay might be obtained from such ground, after a slight top dressing, tolerably rich; and I earnestly recommend the experiment to the possessors of such land.

That fiorin will *grow* there, *Nature* tells us in the most convincing manner; for its panicles, at this season, abound on every spot of the description. That it will be *luxuriant*, if *kept* in exclusive possession, and effectually protected, I speculate thus.

Our common meadows, whose hay is chiefly composed of the *stalk* bearing the panicle, come to their period of perfection between the inflorescence and the ripening of the seed, mostly in *June* and *July*; then their vegetation ceases. Their luxuriance, of course, depends much on the quantity of rain that fell in *May* and *June*; and when these months happen to be dry, our hay crops fall off greatly.

Fiorin crops depend on circumstances totally different; for though the panicles of this grass are very abundant, and come forward in *July*, it is not upon them we depend for our crop: it is on the *strings*, or *stolones*, infinitely more abundant, and of far superior quality.

But the periods of vegetation of the *stolones* is very different. Their greatest paroxysm is in *September*. I think they vegetate rather

rather more in *October* than in *August*. They increase their length a good deal in *November*, and continue growing through *December*.

Hence I expect it will follow, that in the driest, and even sandy ground, the fiorin strings will find moisture enough at the latest periods, in which it has pleased Nature to call their powers into action.

SEASON FOR MOWING FIORIN, AND MAKING IT INTO HAY.

The late growth of the *stolones*, in which the value of the fiorin hay *exclusively* consists, induces the necessity of mowing at a very late period; and fortunately, Nature has endowed those strings with powers wherewith to brave the severities of the season to which they must necessarily be exposed, during the process of converting them into hay.

You ask me, At what time I *really* intend to mow the 14 acres of fiorin meadow I have now standing?

My positions relative to winter, and even spring hay-making, have been deemed so revolting, as greatly to discourage fiorin culture, and have stopped many who otherwise would have engaged in it.

Hence, to prevent the ill effects of so general a prejudice, I found it necessary to establish the *facts* supporting this new practice, by irresistible evidence; and to demonstrate the existence of the cause upon which this curious property of fiorin depends; and to deduce, from uncontroverted principles of natural philosophy, that this effect necessarily follows from the cause whose existence I have established.

I have precluded myself from recurring, in this letter, to former publications; and therefore confine myself to a direct answer to your question.

The answer is to the same purport with a notice which I published last year in my own country, and have lately sent to England, viz. *That I would mow and make hay on the first and fifteenth of every month, from October to March inclusive*; and that I would take care to have hay in the field, exposed to the weather during that whole period.

I commence mowing this year somewhat earlier; and, as I must soon leave the northern shore, I began to cut my Portrush meadow, September 25th.

You saw it four or five days before, and can bear testimony to its high state of vegetation. I made you remark the surface bristling with innumerable green points, like the teeth of a flax hackle; every one of them in full growth, adding rapidly to the length of the string, of which I showed you that it formed the point; of course, that I lost much in quantity by so early mowing.

On the 1st of *October*, I shall cut the fiorin in my plantations, orchards

orchards, that close under hedges, and, in general, whatever is exposed to have its hay adulterated by falling leaves.

October 15th, I shall mow my irrigated fiorin, allowing full time to make it into hay, and to take it off before November 10th, when I wish to let in the water.

I shall mow the rest, as suits my convenience, on the 1st and 15th of the succeeding months; promising to your countrymen, as I did to the English, that whoever comes, or *stands* to inspect my proceedings, shall have fiorin roots, strings, seeds, and full instructions on every process relative to it; and also be taught how to know it *at home*; where, I can assure them, it is the *most* common grass with which Nature has clothed their country.

Quantity—Amount of Fiorin Winter Crops.

For the *quantity* and the *quality* of my fiorin crops, I muſt refer to the printed defence of my ſanity, which has been often impeached on account of my paradoxical poſitions relative to this graſs.

You will ſee there, that it was proved, before the Earl of Cosford and Lord Viscount Northland, by the oath of the perſon who aſſiſted me in meaſuring the ground and weighing the hay, that one portion *not* manured the preceding year, produced at the rate of *ſix* tons the *Engliſh* acre; and that another portion which had been manured, produced at the rate of 7 tons, 4 hundred, 1 quarter, and 8 pounds; that the hay, when weighed, was dry, rattling, and merchantable by *weight* between man and man; the two noblemen certifying, at the ſame time, for the ſuperior quality of the hay.

Winter Green Food.

Should the enormous quantity and great value of fiorin crops prove inſufficient to tempt your countrymen to venture upon Chriſtmas hay-making, there is another moſt important uſe to be derived from fiorin graſs, which relieves them from the neceſſity of encountering ſo formidable an operation; that is, an inexhauſtible ſtock of winter *green food*, which can be mowed *daily* for their milch cows.

Though I have preſſed this topic in different publications, I muſt, in this inſtance, deviate from my rule of ſeeking new matter, and earneſtly recommend the culture of fiorin in Scotland, had it nothing to recommend it but this ſolitary advantage.

I do not proceed upon mere ſpeculation; the value of fiorin, as a *winter* green food, is eſtabliſhed by practice. Two years ago (1807) I tried it on a ſmall ſcale, with complete ſucceſs. Two acres of this graſs *laſt year* (1808) left me (after my hay experiments) a conſiderable quantity for my milch cows, which, while it laſted, both enriched their milk and increaſed its quantity; for this

this year I have an abundant ſtock; and, probably, during the reſt of my life, my cows will not taſte *dry* hay.

Here is an additional motive for inſpecting my proceedings; thoſe who are not diſpoſed to believe my ſtatements upon the quantity of my fiorin crops; and thoſe who are obſtinate in denying the poſſibility of ſaving hay in the midſt of winter, may be curious about this *new fact*, and willing to aſcertain the exiſtence of a valuable winter green food of ſuch eaſy acquiſition.

PROCESS OF MAKING HAY AT CHRISTMAS.

I ſhall conclude by replying to a queſtion, which you, as well as many others, have often put to me.

By what proceſs can I ſave hay in the three winter months, when, excluſive of the deluges of rain and falls of ſnow to which it muſt be expoſed, evaporation is rarely in action;—a ſeaſon, during which the atmoſphere is rarely diſpoſed to abſorb moiſture, but is generally parting with what it holds diſſolved?

I was not ſo hardy as to ſpeculate *a priori*, upon the ſucceſs of ſo unuſual a practice. The facility of ſaving fiorin hay *in winter* I diſcovered by accident, as I have detailed minutely in a memoir publiſhed in the Tranſactions of the BELFAST LITERARY SOCIETY; and it was ſome time afterwards that I diſcovered, and ſtated to the world, the *principle* upon which this curious property (peculiar to fiorin hay) depends. I cannot now go over the ſame ground again, but ſhall proceed to what I have not ſtated before, viz. *my mode of making hay in winter.*

To look for a fine day at that ſeaſon might be vain, and to wait for it where the quantity of hay is conſiderable, muſt be inconvenient; beſides, the cloſe *flat* ſoil of this graſs is always ſo wet, that rain, at the time of mowing, could not make it worſe; but, from the length of the ſtrings, it riſes from the ſcythe ſo rough in the ſward, that the air has a free paſſage through it, and alſo in the lap-cock; nor in either does it receive injury, though it ſhould be expoſed for weeks without turning.

I open out the hay in the firſt ſtirring wind, which ſoon carries off its exterior damp, whether it came from rain, or was acquired while lying flat on the ground. As for its own *internal* juices, I am anxious to retain them.

As ſoon as the *ſurface* is dry, I hurry the hay into lap-cocks, when I conſider it ſafe from all danger.

In the next wind (after a week, and I care little how much longer) I open the cocks for half an hour to let the air paſs through them; hurry eight or ten of them into a large cock, in which it will ſtand the winter ſafely; but, as wind might ſcatter it, I conſider it more prudent, in another windy day, to throw it into cocks as large as men can build, without treading. Theſe, ſecured by two ropes (eaſily made from the long ſtrings), will certainly

ſtand

ſtand ſecure until wanted for houſe or other conſumption, and need not be removed from the place where they ſtand, as their ſurfaces will not bleach, nor their bottoms rot, as happens in other hay-cocks.

Thus a moſt troubleſome and expenſive part of the proceſs of ſecuring our hay will be ſaved; I mean, that of bringing it home, and putting it into large ricks; an operation, during which, the farmer's whole ſtock of hay is much expoſed to the weather in late and uncertain ſeaſons; and alſo to another ſerious danger, that of heating in the rick.

Theſe advantages may help to compenſate for the loſs of *aftermath*, which, in fiorin meadows, is neceſſarily given up; but the real compenſation lyes in the enormous quantity, and the ſuperlative quality of the hay itſelf.

Should the Conductor of the FARMER'S MAGAZINE honour this communication from another country, with a place in his collection, I ſhall cheerfully reply, through the ſame channel, to any inquiries that may be made relative to this graſs, whoſe *value*, at leaſt, is a new diſcovery, and whoſe great ſuperiority over other graſſes is more ſtrongly marked in our very *worſt*, than in our *beſt* grounds. I am, Sir, your very humble ſervant,

Moy, Ireland. W. RICHARDSON, D. D.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Plan for deſtroying Foxes, and for relieving Country Gentlemen from the great trouble, hitherto taken by them, of freeing the Country of theſe animals.

SIR,

NONE of your correſpondents have hitherto deemed it of importance to address you on the subject of deſtroying foxes; nor, indeed, has any plan been reſorted to by farmers, for the purpoſe of exterminating that hated vermin; though they all, I dare ſay, are ready to admit, that they are liable at times to loſe a chicken, an irreparable loſs to the miſtreſs, or even a ſickly twin lamb, a vexatious circumſtance to themſelves and ſhepherds, from their depredations. This careleſs indifference of farmers is the more unaccountable, as they have a generous example from landlords, who, at incalculable expenſe, maintain ſervants, hounds, and horſes, for the ſole purpoſe of protecting their tenants from the inſidious attacks of theſe cunning animals. It is true that many of the latter claſs conſider the vaſt expenſe and trouble of the former, diſproportioned to the end; and complain that they ſuffer more real injury in one year, from the intended benefits of landlords, in this inſtance, than could be expected from the theſts

ts of foxes in the course of ten years, were they permitted to tipty without molestation. But gentlemen cannot be blamed: act from the purest motives; and are incapable of potching s of young wheat and grass; of breaking down fences; of un-ing gates; and of disturbing sheep and cattle, for the sake of an r's amusement. The generality of them are so well acquaint-vith rural affairs, that they would rather lose their labour and ble, than commit any serious trespass: but they are usually owed by a parcel of idle fellows from towns and barracks, are so ignorant, that they scarce know clover from heather; such indifferent equestrians, that, far from being qualified to w the ditch and fence behind them, they stop at every gate, k and unhinge it if it will not open, and pull down stone s, over which they have not courage to follow their rural ers. It becomes farmers to unfold the truth to their land-s, that they may no longer remain in error, incurring great enses, to the injury of the very persons whom they wish to e; and to adopt some plan of their own, for relieving their well-ners of the eyesore of seeing an occasional twin lamb, or a wan-ng chicken, fall a prey to the midnight thief. Landlords have ady contributed more than could have been expected of them; are so generous in other respects, that they protect farmers n the annoyance of game, without permitting them to share he trouble, lest their attention should be withdrawn from pro-ional pursuits. An association might easily be formed by ners, to meet occasionally with greyhounds, in order to sur-nd covers; when they would, in all probability, destroy more es in one day, than are killed in the usual way in a season. ught then to be an invariable rule, to burn all covers, that, n want of convenient concealments, the parents may be pre-ted from increasing the species. As many might still escape, association could offer rewards for destroying them. Ten shil-s for every one; twenty for every brood; five guineas addi-al to the diligent few who may kill a dozen in a season; and nty guineas to those who may kill a score. By adopting some h plan, an enormous expense would not only be saved to the ntry gentlemen, which they, with their usual liberality, might loy in some useful public undertaking; but the farmers would great gainers, their live stock being permitted to range the ures undisturbed, gates and fences not being subject to the rties of those who, though keen sportsmen, are but unskilful rs, and their fields not being potched in wet seasons by men are little aware of the injury they do to agriculture.

October, 1809. B.

BRANCH

BRANCH II.

Review of Agricultural Publications.

A System of Sheep-grazing and management, as practised in Romney Marsh. Illustrated with Plates. By Daniel Price of Appledore in Kent. London, Phillips. 487 pages, 4to. 1809.

We are always well pleased to receive instructions respecting the management of live stock from our English neighbours, who, certainly, in many districts at least, excel in that branch of rural economy. We therefore opened this two guinea quarto with avidity; and, examining the title-page, expected to find the management practised in Romney Marsh to be the very first in the kingdom; more especially as, in turning the leaf, we observed that the work was approved by Sir John Sinclair, and therefore dedicated to him. Still, we were surprised at the title of the book, although it cost us two guineas; and shrewdly suspected, while turning over the table of contents, that the author had *made a book*, instead of detailing the actual management of a particular district. Our suspicions were strengthened after perusing the contents of twelve chapters, when, having ascertained that the book was rather a critique on the Romney Marsh management than a recommendation of it, we became quite crest-fallen, thinking that the disagreeable task of reviewing a reviewer had devolved upon us. However, we proceeded to read the work itself; and, after giving a short description of Romney Marsh, shall record our observations in the order they were made.

Romney Marsh lies on the south coast of the County of Kent, being about 10 miles in length from east to west, and nearly 4 miles in breadth from south to north. The district contains about 24,000 statute acres, partly of a rich alluvial soil, whilst the remainder is of different varieties, some of it being peat earth, though the whole is well calculated for carrying grass, and is generally employed in the breeding and feeding of sheep. A small quantity of the ground is, however, kept under the plough; but the richest fields are constantly preserved in grass, yielding, in that way, handsome returns to the occupiers. The district not being healthy, is thinly inhabited. Excepting the villages, and these consist only of a few houses built near the churches, there are hardly any other houses interspersed in it; and the inhabitants of these villages, are chiefly people hired to look after live stock, the owners of which mostly live in the neighbouring towns, or in the upland country. In short, though Romney Marsh is a valuable tract of

country

country, its real value is not yet ascertained, nor will it be ascertained till a different system is adopted. Besides the district usually called Romney Marsh, there are other districts contiguous, of similar soil, and nearly under the same management. The whole may be calculated at 60,000 acres; two-thirds of which are employed in breeding, the other third in fattening live stock—chiefly sheep. Indeed, from the earliest period of our history, sheep-grazing has been extensively carried on in Romney Marsh; though, as turnips and other winter crops were seldom cultivated, it is plain that sheep could neither be reared nor fattened with the same advantages as in those districts where a different system of management was adopted. Having given these general remarks, it is now time to examine more particularly the information communicated by Mr Price in the publication before us.

The greatest part of the first chapter is taken up by a story that has been told times without number. Buffon and others are freely quoted, and criticized. Wild sheep and tame sheep are exhibited to ascertain the difference between them. We hastened over this ground, and were galloping through the trite description of the uses of a sheep, but were arrested by the following curious statement, p. 12. 'After having served us for food, the skin employs the feltmonger, and is afterwards fabricated into parchment.' The taste of the Romney Marsh people must be very extraordinary, when the skin serves them as food; and the skill of their feltmongers must exceed that of all the chemists on earth, when they can manufacture parchment from excrements. Such is the only mode of explaining the sentence. If the author meant some other thing, it is unpardonable in an Englishman to be unable to express himself in his own language, and expose himself to the criticism of Scotsmen.

In noticing the varieties of sheep, Mr Price observes, that there is no chance of the wild and tame breeds intermixing. That they will not probably associate is true; as we often observe sheep of the same variety keeping separate when introduced among a strange flock. But, when the sexual appetite is roused, there is no nicety: even an Argali tup will nimbly descend from his rocky pastures, to court a greasy Bakewell ewe, or a genteel Royal Merino.

Speaking of selection, the author observes—'But selection alone will never preserve the form and shape, if the constitution be injured by starvation, perseveringly persisted in, as is now the case in Romney Marsh, especially with the lambs which graze on the hills in winter, and uniformly acquire that form which constitutes the characteristic of degeneracy.' Here, we humbly confess, we shut the book with something like passion, and exclaimed—Is it for this our two guineas are gone? Alas! they are thrown

to the cocks, though many a good dinner they might have procured for us. Vile title-page! why did you not inform us that, for two guineas, we would be told that the ſyſtem of management in Romney Marſh was execrably bad? No wonder that the Romney Marſh people have nothing but ſkin to eat, when there is no fleſh on their ſheep! Here paſſion gave way to pity, and we proceeded to open the book, and move on; and, though one or two little interruptions occurred, we had the virtue to proceed through nearly ſix pages, when we were told 'Mr Bakewell has ſaid to them' (the graziers of Romney Marſh), 'plough, and raiſe artificial food.' But they replied—'No: we object to trouble and expenſe.' Such an anſwer is extremely ridiculous, and warrants us to conſider the title-page as a mere impoſition. But we proceeded to ſearch out ſome of the author's opinions, reſolving to go on quietly, and to check all fretfulneſs.

In the ſecond chapter, it is ſaid that ſheep are 'helpleſs and harmleſs,' &c.; that they 'have an antipathy to a dog, which is a ſpecies of wolf;' that 'rams poſſeſs more courage than ewes or wethers;' that they are afraid of thunder and lightning; that the head is their weapon of offence and defence,—with a good deal more of ſuch important information. Then come ſome hits at the Romney Marſh management, and quotations from Daubenton, containing the ſigns of health in ſheep. After ſome looſe, and apparently contradictory obſervations (owing to inaccuracy of expreſſion) on the diſpoſition of ſheep to fatten, it is obſerved, that ſheep of a good diſpoſition muſt poſſeſs certain properties, among which are—'that the proper proportion of parts, or make of ſheep, indicates a good or bad diſpoſition.' From this ſentence, one would ſuppoſe that the author meant, that ſhape was of no conſequence; becauſe he ſays, that the *proper* proportion indicates both *good* and *bad* diſpoſition. Again—'The handling of the ſheep, free and mellow in its fleſh, is a good criterion of a ſuperior diſpoſition.' The author certainly meant to ſay, that if, on handling a ſheep, its fleſh is felt free and mellow, we may conclude that it has a good diſpoſition;' not that the mere handling is a criterion. The explanations afterwards given are extremely obſcure; and ſhow the author's fitneſs to manage his ſubject, by identifying the *conſtitution* of a ſheep with *circulation*. (p. 41.) In mentioning what he calls the quietude of ſheep, Mr Price ſpeaks of ſome being more *cade* than others. This ſeems to be a provincial term, and quite unintelligible to us. We know that even the better ſort of people in Kent ſpeak bad Engliſh, as well as the ſame claſſes in Scotland; but the former are leſs excuſable in writing it. Probably the famous Jack Cade had ſome ſheep of a peculiar diſpoſition. We believe he was a Kentiſh man.

After

After having read Culley on Live Stock, the ſection on the good qualities of ſheep did not intereſt us much. We meet with frequent references to the *conſtitution of the ſoil*, where the author evidently means the quality of paſture. In ſhort, the whole of the book ſeems intended, not to recommend the Romney Marſh management, but to condemn it. If the author believed that the management in the whole kingdom was as bad, he might have gained credit by his obſervations. But we have not yet done. Going on, we are ſurpriſed to find that a grazier of eminence was in the habit of riding on his rams. It is ſaid, he had 'rode the Leiceſter rams.' We preſume that the author meant ſomething about the rams riding, and not the grazier. Nothing remarkable occurs, till we reach p. 104, where there is the following paragraph. 'In my opinion, the beſt time for lambing in the Marſh is about the 12th April,—an opinion in which the moſt experienced graziers concur, from having obſerved feweſt deaths happen when this period is choſen. The ewes are, a week or two before, 'arranged for the riding,' &c. Although it is clearly ſo expreſſed, it is impoſſible that the author can mean to ſay, that the ewes are put to the rams about the end of March, and drop their lambs on the 12th April. In next page, we find again graziers *riding* their ram lambs.

Chapter third begins with theſe words—'The principles of lambing.' Next page, we find the 'practice of lambing,' and that the author is not a novice in it. One would imagine from this, that lambing was an art or ſcience, and that the author was a ewe! But it ſeems, that by lambing is meant, a branch of the obſtetrical art, which being much practiſed in the Marſh, a great loſs of lambs is experienced. From the wretched management deſcribed in this coſtly volume, we are not ſurpriſed that a ſection on preternatural labour ſhould be thought neceſſary—eſpecially as the author is a practitioner. We can hardly get on; conſtantly meeting with people lambing, which excites our riſibility. We find ewes *lambing*, and *a young man lambing* for his father, in the ſame page, (163.) It is a pity that Sir John Sinclair, in his approbation, did not correct the numerous obſcure and ridiculous expreſſions made uſe of by Mr Price.

In chapter fourth, we find 'Practical rules for breeding,' &c. The ſoil is here again ſubſtituted for paſture; and we read of the *ſize* of an animal being *underneath* the ſoil. Let us not ſuppoſe that the animal was buried. Some of the remarks under the ſection 'Management' are good; but there is ſo much obſcurity, that it is with ſome difficulty the author's meaning can be diſcovered. In the deſcription of the practice of a bad manager, we find the reaſon why there is ſo much bad management in Romney

Marſh. The graziers are ſtated to be of opinion, *that if they have brains ſufficient to keep them out of the marsh ditches, they have plenty to make a grazier.* There is a queſtion ſtated as the title of a ſection, p. 182, 'Are (is) the Leiceſter variety of ſheep to be conſidered as an improvement of the Romney Marſh breed?' From this we imagined, that the Leiceſter breed was alleged to be the Romney Marſh breed improved; but, on reading further, we found that the queſtion was, Is the Leiceſter variety of ſheep likely to improve the Marſh breed by croſſing? The ſection on the Anatomy of Sheep is very imperfect. That on the moſt proper ſize of ſheep is worthy, as the whole book is, of the attention of the Romney Marſh grazier. We have a ſection entitled, 'On Sheep Societies,' which is filled with remarks on breeding. In cheaper books, tyros in ſheep-farming will find as uſeful ones on the ſame ſubject. Indeed, in p. 244, the author acknowledges his ignorance of ſheep-grazing, and does not wiſh his ſtatements to be depended on. This information will greatly ſhorten our labour, and enable us to keep within our ordinary limits. We haſten to the ſection, 'Practical Remarks on Management;' but find nothing in it, except ſome remarks on what happened in the year 1805, contained in two pages. A few, but good advices, are given to young graziers in pages 305 & 306. In chapter tenth, there is a propoſal for the eſtabliſhment of a *grazing college*, which, if carried into execution, might, under ſuitable management, be attended with ſeveral advantages.

The two laſt chapters are on the Diſeaſes of Sheep. The firſt deſcribed is called the Blood, which is the ſame with the braxy, or ſickneſs, as it is ſometimes named. The whole of what Mr Hogg urges on that important ſubject is quoted by Mr Price, though certainly it has no connexion with Marſhland management. Then comes a quotation from Daubenton on bleeding; next, there is a long account of ſturdy, or water in the head; and Mr Hogg is again liberally made uſe of: he alſo furniſhes the diſſertations on Rot and on Scab. Indeed, moſt of the laſt hundred pages is borrowed from other people.

We have now gone through this expenſive volume, and ſincerely regret the loſs of our two guineas. It may perhaps be beneficial in Romney Marſh, but probably no where elſe. All the uſeful knowledge in it has already been conveyed by other authors, who have not buried their information in a maſs of rubbiſh. The book is clumſily and heavily written, and every thing is expreſſed in a confuſed manner. Notwithſtanding it is finely printed on wove paper, we may aſſure our readers, who are beginning the buſineſs of sheep-farming, that they need not regret that the price puts the book out of their reach.

Before

Before closing the article, we cannot refrain from offering a few remarks on the sheep system of Romney Marsh, with some hints for its further improvement. These, if candidly examined, may probably be of some advantage to the graziers of that valuable district.

In the *first* place, the radical defect of the Romney Marsh sheep husbandry is a want of winter keep for live stock; whence arises a necessity of wintering lambs, and young stock, in the upland districts, where they are often badly supplied with food, and imperfectly managed. The like circumstance occasions the grazier to overstock his pastures in winter, when they ought rather to be hained or preserved; for the eating of grass land in winter, even in a moderate manner, necessarily retards its growth in the spring season. Hence the Marsh farmers are constantly overstocked in the worst, and understocked in the best months of the year; which is quite opposite to the practice of good graziers in other districts. In fact, the present Marsh system is exactly the same with what was practised some centuries ago, and greatly inferior to that of other grazing districts. The stock may probably have been improved, though the method of management continues as formerly. That the stock has been amended, we entertain not the slightest doubt; though, without a larger supply of winter food, a complete, or even a substantial amendment, is not to be attained.

In the *second* place, we remark, that if aration was more generally introduced into the district, and exercised upon such soils as are not naturally unfit for tillage, incalculable advantages would follow. We by no means recommend any thing like a general introduction of the plough; being fully sensible, that the soil of the district is adverse to extensive or continued tillage: but were it only carried so far as to furnish an opportunity for raising green food, we mean turnips, ruta baga, &c. many more sheep might be kept, and a great deal of more profit gained from a given number, than is practicable at the present time, when winter keep is so scarce an article. Rich crops of corn might be raised, in the first instance, at small expense, and weighty crops of turnips would follow, even though the ground was not manured, to the great benefit of the occupiers, and the increased welfare of their numerous flocks. Even a partial supply of turnips would be of immense advantage. Were such a quantity of that root provided as might serve the flocks in the months of February, March, and April, when the pastures are so dull, after being blasted with the winter storms, as only to afford a small supply of food, and that yielding little nourishment, the benefit would be considerable; for wether sheep might then be regularly provided for the butcher, the ewes preserved in good condition for bringing forth healthy and fat lambs,

theſe, never being ſtinted of food, would ſoon be ready for the butcher, from whom a better price might be obtained in the end of May, than what is now got at the concluſion of the graſs ſeaſon. But before aration can be exerciſed in a judicious way, or turnips raiſed to a ſufficient extent, the ſurface and ſubſoil muſt be properly drained. The open drains and ditches, which interſect the country, muſt be kept quite clean, ſo as the water from covered drains and headland furrows may be carried off without the ſlighteſt interruption. In a word, it is quite practicable to introduce the plough, and raiſe winter crops, in a conſiderable part of Romney Marſh. Perhaps the management recommended would, in the firſt inſtance, be attended with ſome trouble and expenſe; but thoſe who neglect improvements for no better reaſon than that they are attended with trouble and expenſe, can, neither in Romney Marſh, nor any where elſe, be characterized as good farmers.

In the *third* place; we are not quite ſure that Romney Marſh can be ſo profitably employed in rearing as in fattening ſheep. It is a maxim with us, that a breeding farm ought never to be the fattening one, except in ſo far as reſpects the crop of lambs, which can hardly be viewed as an exception. Breeding may be carried on upon every ſoil and in every ſituation; whereas feeding in perfection can only be executed upon good ſoils; thoſe of a different deſcription, ſeldom making the farmer a ſuitable return for the graſs conſumed by the animals attempted to be fed upon them. Hence, in all rich grazing diſtricts, it is more profitable to purchaſe ſtock annually, or when wanted, than to breed the animals; becauſe both cattle and ſheep can be reared at leſs expenſe upon inferior ſoils. Under ſuch circumſtances, it is alſo cuſtomary to ſell live ſtock to the butcher the moment it is fattened, rarely holding any on, even lambs, longer than the time required to fatten them. Thoſe who manage in this manner, purchaſe ewes annually, ſay about Michaelmas; keep them well throughout winter and ſpring, eſpecially a fortnight before lambing time; ſell the lambs to the butcher, when about two months old or ſo, and the ewes in the courſe of ſummer, after being fattened. Wether ſheep are purchaſed and managed ſomething in a ſimilar manner; only the time of purchaſing is regulated by the ſtate of the markets and condition of the paſtures. According to theſe methods, the occupier of rich graſs will be better paid than if he kept a regular breeding flock; whilſt leſs capital ſtock will ſuffice for carrying on his buſineſs, and leſs riſk of loſſes in the flock will be hazarded. Beſides, a ſyſtem ſuch as the one recommended, is more conſonant with the general intereſt of the country than its oppoſite; therefore, on that account, merits our countenance and ſupport. The uplands, and inferior ſoils, according

cording to the meaſures we have ſuggeſted, are left to breed animals, *i. e.* cattle and ſheep; whilſt the rich low country diſtricts are reſerved for feeding and preparing them for the ſhambles.

E. & N.

A Treatise on the Diseases and Management of Sheep, with Introductory Remarks on their Anatomical Structure; and an Appendix, containing Documents exhibiting the Value of the Merino Breed of Sheep, and their Progress in Scotland. By Sir George Stewart Mackenzie, Bart. pp. 180. Edinburgh, Conſtable and Co. 1809.

In the introduction to the *Scots Farmer*, a periodical work, publiſhed at Edinburgh in 1773 and 1774, the editor, ſpeaking of the aid which might be expected from the tenantry of Scotland in carrying on ſuch a work, ſays, 'they are undoubtedly poſſeſſed of a number of facts not generally known; *and the management of sheep is all their own.*' Though this very probably was the caſe at the period when the Scots Farmer was publiſhed, yet it is unqueſtionably true, that men of ſcience and obſervation have for ſeveral years paſt turned their attention to ſheep huſbandry, conſidering it as a moſt important branch of rural economics. The celebrated Mr Culley led the way. Sir John Sinclair and the Britiſh Wool Society followed his ſteps. The Highland Society alſo accumulated a large ſtore of valuable information concerning the management and diſeaſes of ſheep; and we are now favoured by one of their moſt active members with a practical treatiſe on the like ſubjects. From theſe circumſtances it may clearly be inferred, that an intimate acquaintance with ſheep huſbandry is now ſpread amongſt rural practitioners in every quarter; and that the knowledge, neceſſary for managing and treating that branch of ſtock, is not confined to ſhepherds and farmers, as it was in former times. Hence uſeful improvement, not only in the ſelection of proper breeds, but alſo in the mode of treating them when diſeaſed, may ſoon follow, to the great benefit of the public, and the advantage of thoſe concerned in the rearing and feeding of ſheep.

Sir George Stewart Mackenzie, well known as a gentleman of active mind, being, from the nature of his landed property, much intereſted in ſheep huſbandry, turned his attention, at an early period, to that important ſubject; and, in the treatiſe which we are now to examine, furniſhes ſheep farmers with much information concerning the diſeaſes to which ſheep are liable, and the moſt appropriate remedies when they are diſeaſed. The objects of this work, however, will be beſt learned from his previous addreſs to the Northern

Aſſociation; a part of which ſhall be given in the firſt place, and other paſſages ſhall afterwards be extracted, ſo as our readers may be enabled, in ſome degree, to eſtimate the merits of this uſeful and practical publication.

'I had some thoughts of executing this work several years ago, but relinquished them on my not finding any of my medical friends sufficiently disengaged to assist me in the dissections which I thought necessary. In the mean time, on the suggestion of my learned and worthy friend Dr Coventry, I took advantage of my being Convener of the Prize Committee of the Highland Society, and proposed the premium which called forth many valuable essays on the diseases of sheep, which, after having been compressed into one memoir by Dr Duncan, junior, have been published in the Transactions of the Society. Having perused that memoir, I was fully convinced, that a more intimate knowledge of the anatomy of sheep than seemed to be possessed by the authors of the essays, who were not medical practitioners, was necessary, before any regular system could be formed for preventing and curing the diseases to which these useful animals are liable. I, therefore, lately made another attempt to obtain the assistance of a person well qualified for the task; and it gives me great pleasure in informing you, that Mr James Wardrop, whose abilities are too well known to require any eulogium from me, has kindly afforded me the assistance I required. To him you are indebted for the first part of this volume. The rest did not require much labour; and, as far as my scanty knowledge of medicine and surgery has enabled me, I have endeavoured to execute the task I assigned to myself, with brevity and distinctness. The anatomical observations are, purposely, very general; but, it is hoped, sufficient to give a correct idea of the different parts most essential to life. Had the observations been more minute, they might have appeared tedious, and probably have deterred those for whom this volume is chiefly intended, from entering at all on a study which is of more importance to sheep farmers than is generally allowed.

'Owing to the very extensive ranges which sheep are permitted to have on large farms, it is difficult to discover a sickly animal before its disorder has made so much progress as to render every attempt to remove it quite unavailing. On that account, it becomes of very great importance to feed and manage sheep in such a manner as to expose them in the least possible degree to any thing which might injure their health. But before we can prevent diseases, we must understand their nature. We have not yet arrived at a sufficient degree of knowledge for enabling us to distinguish the diseases of sheep with accuracy, or to trace them to their origin. Thousands of these animals have been opened after death; but although we have been told that the liver, the stomach, or other viscera, have been affected, we find the appearances of the parts indiscriminately and arbitrarily referred to the disease under which the animal was presupposed to have

: been suffering. Unless there has been a careful observation of symptoms by which an animal has betrayed an inward com-nt, an examination of the appearances which present themselves dissection is almost useless. Before we can accurately discover nature of any disease, we must observe the early, intermediate, last symptoms, and then search for the cause by dissection. It be necessary too to kill some animals labouring under the first ptoms, in order that the situation of their cause may be disco-d. When we are told, that the general appearance of the body sheep which died of *braxy*, was that of an inflamed, or mortified s, we are not conducted to the original seat of the disease. ile one person insists that an affection of the liver is the cause of rot, and another maintains that that malady originates in the gs, we are not satisfied. Sometimes both the liver and the lungs found to have been affected, and then we are still farther from object of our search.

By knowing the functions of the different organs, and their con-on with various parts of the body, we may sometimes discover : some apparently very trifling circumstance may have been the se of the most formidable diseases. Whilst those who have the : opportunities of observing sheep, are ignorant of the uses and ons of the different parts of their bodies, we cannot expect to te much progress in acquiring knowledge of the causes of the va-is diseases to which these animals are subject. In the manage-nt of horses, we see the beneficial effects which have followed a play of their anatomical structure; and almost every groom can the causes of any particular symptom of disease. I have hum-endeavoured to pave the way for shepherds to acquire a com-ent knowledge of the structure and uses of the most important ts of the animal in whose health they are so much interested; and ust that others, who have more opportunities, and are more skil-will follow up the subject, and collect such facts and observa-is as will enable us to manage our flocks without having recourse he assistance of vulgar prejudice.

My friend Dr Duncan is right when he prefers good manage-nt to doctoring; but, to arrive at that, we must be able to under-nd the causes of what we wish to avoid.' p. iv.—vii.

The First Part of the work gives a correct view of the Anatomy Sheep, without which, every attempt to prescribe remedies for eases to which the animals are liable, would have been but ping in the dark, and prescribing at random. The Organs of gestion are first explained; and two plates are given of the Sto-ch and Intestines, which must prove beneficial to those who e not dissected sheep, or patiently investigated the different ts of the animal. The contents of the Chest, or Thorax, are t described. An account of the Lungs follows, which is ceeded by a minute description of the Brain and Nerves, con-

cerning

cerning which, a plate is also presented. The last section is on the Teeth of Sheep; and what is stated may be of some use to our readers, at least to those who are only entering upon sheep farming.

'The age of a sheep may be known by examining the teeth on the fore part of the under jaw. They are eight in number, and appear during the first year, and are all small in size, and pointed. In the second year, the two middle ones fall out, and their place is supplied by two new teeth, which are easily distinguised by their being of a larger size. In the third year, two other pointed teeth, one from each side, are replaced by two large ones, in such a manner that there are four large teeth in the middle, and two pointed ones on each side. In the fourth year, the large teeth are six in number, and only two pointed ones remain, one at each end of the range.

'In the fifth year, the remaining pointed teeth fall out, and are replaced, so that the whole set are large. In the sixth year, the whole front teeth begin to be worn, by being constantly rubbed one against another. In the seventh and eighth years, and sometimes sooner, some of the front teeth fall out, or are broken.' p. 21, 22.

The Second Part is on Wounds, &c.; which, being of a general nature, shall be passed over. With regard to Bleeding, we have some useful information. Probably this operation is too much neglected when sheep are diseased; and under this impression, the author's directions shall be extracted.

'This operation is most conveniently performed on a large vein, whose branches are spread over the face of the sheep. The vein may be felt distinctly coming from the neck, and passing over the edge of the lower jaw to the cheek, about two inches from the corner or angle of the jaw, or opposite to the third of the grinding teeth. When the operation is to be performed, the sheep is to be held between the limbs of the operator, and the croup placed against a wall, to prevent the animal from recoiling: the left hand is to be placed under the head, and the under jaw grasped in such a manner, that the fingers come upon the right side of the jaw, so as to press upon the vein, a little below where it is intended to be opened. By thus pressing on the vein, the flow of blood is prevented beyond the place where the pressure is applied; and the blood, consequently, can find no other course but through the artificial opening about to be made. The operator, with the lancet or knife, opens the vein by making an incison *obliquely* across it at the place where the trunk is largest, and where it is most distinctly felt through the skin. The oblique direction of the cut, is found to answer better than either one made directly along the course of the vein, or one across it. While introducing the instrument, it is of great consequence to keep the vein from rolling under the skin, and escaping from the point; this is best accomplished by making the incision close to the point of the

the finger which presses upon the vein. In diseases of the head requiring bleeding, and in particular inflammations of the eyes, it is most advisable to open the vein of the cheek; but in diseases of other parts, blood may also be procured from a large vein that runs along the fore leg. This vein passes from the foot along the back part of the leg to the ham, and then goes obliquely over to the fore part of the limb. It is nearest the surface, and sufficiently large, a little above the knee, and may, at this place, be easily opened. The operation may be best performed by securing the other three feet of the animal; and the operator, by grasping the limb above the place where the vein is to be opened, causes it to swell, and after it is distinctly felt, makes an incision in the manner recommended when the vein of the cheek is to be opened.' p. 34—36.

The Sturdy, or Water in the Head, is well known to be generally fatal. Hence we were anxious to see how our author would treat of it. We have never seen Mr Hogg's remedy tried, therefore cannot offer an opinion on it; though certainly his authority is of considerable weight, therefore not to be disregarded.

'The cause of one species of sturdy has been already mentioned. The collection of water in the ventricle of the brain is deemed an incurable disease, and probably is so. The other, and most common, species of the disease, arises from animalculæ, called hydatids. In this case the water is contained in cysts, or bags, unconnected with the brain, on which, however, if not prevented, it acts fatally by pressure. It would appear too, that a long continuation of the pressure occasions part of the brain to be completely disorganized, and converted into a substance, the examination of which may afford some instructive hints to anatomists, but which is foreign to our present purpose.

'Very soon after water has begun to collect, either in the ventricles or cysts, the animal subjected to the disease shows evident and decisive symptoms. It frequently starts, looks giddy and confused, and as if at a loss what to do. It retires from the rest of the flock, and sometimes exhibits a very affecting spectacle of misery.

'Various methods of relieving the pressure on the brain have been proposed; and when put in practice by skilful and patient hands, most of them have succeeded. It would be superfluous to enumerate and describe them all, as a method has been found of perforating the cyst, which has succeeded perfectly in numberless instances; and which, from the ease with which it may be performed, very strongly recommends itself. Yet the operation is one which, from reasoning on the peculiar delicacy of the brain, never would have been advised. We are indebted for it, it would appear, to Mr James Hogg, who tried the experiment, to rid himself of trouble, while a herd boy. He laid hold of every sturdied sheep which came in his way, and (being employed in knitting stockings) he thrust one of his wires up the animal's nose, and forced it through the skull into the

the brain. In those cases in which wiring proves fatal, it is probab that the instrument does not reach the cyst. There may, indeed, l some portions of the brain more delicate than others; and, on t whole, however general the success of this operation may be, it mu be considered as hazardous. Desperate diseases, however, requi desperate remedies.

'The more delicate and nice operations of trepan, and extracti of the cyst, are fit to be in the hands of skilful surgeons. But wi ordinary servants, the bungling of either, which would be fat would occur so frequently, that only the simple operation of wiri shall be described by the explanation of plate 4th, (which see.)

'An anatomist may make many interesting discoveries, while t tending to the disease, and the effects of the operation. That in most every case part of the brain is displaced and destroyed, h been ascertained. If it shall be found, that, in animals which re ver, the brain is reproduced, so as to fill up the space which h been occupied by the cyst, the fact will be curious and importan p. 41—43.

The Third Part treats of Diseases, namely, 1. Red Wat for which bleeding is very properly recommended. 2. The E sipelas, or Wild Fire. 3. Scab, or Itch, which shall afterwa be noticed. 4. The Leg Evil, or Black Leg. 5. Maggots. Sore Nipple. 7. Foot Rot; on which disease, a memoir, by Pictet, is given; though too long for insertion at this time. as it appears to contain interesting information, we shall pres it entire in our next Number. 8. Rot. Here Sir George M kenzie combats the opinion of Mr Hogg, who maintains, and think with some truth, that the rot is caused by a sudden fall condition. 9. Sickness, or Braxy. 10. Diarrhœa. 11. Dys tery. 12. Pinding, a disease to which lambs are subject. Staggers. 14. Jaundice.

Having barely noticed the different diseases to which sheep liable, we return to the one called Scab, or Itch; and shall sent Sir George's opinion on that subject.

'This infectious, troublesome, and destructive disease is known. It seldom appears among sheep which have been smear and when it does, it proceeds, most probably, from the touch c diseased animal, of a stone, or a tree, or paling, on which scab sheep have rubbed themselves. A sheep is never, even slightly, fected, but it proceeds to scratch itself, and to rub its sides and l tacks against every thing it meets. As soon as the disease is di vered, the whole flock among which the scabbed animal has b pasturing, should be carefully examined; and every one which an appearance of being fretted on the skin, must be taken away be cured. Several ointments have been proposed for the cure of disease; and that of Sir Joseph Banks seems to have been most

pro

proved of. His prescription, however, can only be made by an apothecary, a personage not always at hand, and who may not always have sheep ointment ready when wanted. Every apothecary has abundance of mercurial ointment at all times; and if a shepherd purchases a quantity of it to keep by him, with a little oil of turpentine, he may always have it in his power to make up ointment when he requires it, and of such a degree of strength as he may judge proper.

'The following directions may be found useful.

Take of strong mercurial ointment, 4 lib.
oil of turpentine, ... ½ pint, Eng.
hog's lard, tallow, or butter 4 lib.

Melt the hog's lard, or butter; allow them to settle, and pour off the clear liquid; then add the mercurial ointment, stirring the whole well, till it be melted and incorporated, and then add the oil of turpentine. Keep stirring the mixture for a minute or two, that the mercury may be completely mixed, and then pour the whole into some shallow vessels, that the ointment may cool quickly. If the mercury should appear to have sunk when the ointment is cold, it may be rubbed a little with a smooth flat stick, on a plate. But there will seldom be any occasion for this, if the process be well managed. A very effectual, and a much cheaper ointment, may be made as follows.

Take of corrosive sublimate . . . 8 oz.
train oil . . . . . 6 gallons, Eng.
rosin, (black or yellow). 2 lib.
tallow . . . . . 2 lib.

Let the corrosive sublimate be reduced to a fine powder, and mixed with a portion of the oil. The rosin, tallow, and remainder of the oil, are to be melted together over the fire, and the sublimate afterwards added.

'If this mixture should be thought too thin, the proportion of oil may be diminished, and that of the tallow increased. Were one or two pounds of powdered white hellebore to be added, it would improve both the consistence and efficacy of the ointment. One pound of sublimate, at 10s., will, in this way, go as far as 50 pounds of mercurial ointment, at 3s.

'If the wool be not taken off, either of these ointments, or that of Sir Joseph Banks, is to be laid on, in the same manner as smearing stuff, beginning with a line along the back; one is to be laid on each side, and one down each leg. The neck, inside of the thighs, and belly, should have a share. In every case, however, the wool should be shorn, except during very cold weather, and the animal washed and brushed with soap and water, before the application of the ointment, which may now be applied all over the body. The mercury will have more effect, and less of the ointment will serve, when all filth and loose scabs have been removed by the washing. What is recommended in another part of this work, viz. anointing

the

the sheep after being shorn, will be found a very effectual means of warding off the scab, and every disease of the skin.' p. 46—49.

The Fourth Part is *on the Management of Sheep*; in which Sir George gives us much interesting information; though our limits will not allow more being done than merely mentioning the heads of it. He recommends good shelter, which undoubtedly is highly necessary; speaks of the danger from snow-drifts, in winter storms, and mentions how it may be avoided; shows that rain is not hurtful to sheep in summer,—and not much even in winter, providing they are in a good habit of body, and well fed; points out the evil from flies in warm weather, and prescribes a remedy; gives salutary advices about feeding sheep, and recommends, that the neighbourhood of stinking pools of water should be avoided; directs how smearing, or salving, should be executed; and judiciously advises a larger mixture of butter with tar than commonly used. As to washing wool, Sir George thinks it may be delayed till the fleece is clipped, and mentions a plan for that purpose. Shearing, or clipping, is then noticed; which operation, he thinks, is generally performed by common shepherds in a slovenly manner.

We are afraid that Sir George's plan for killing foxes, will not be highly relished by those patriotic gentlemen who keep horses and hounds, at great expense, for no better reason than to procure the destruction of these noxious animals. The plan, however, seems well entitled to consideration.

'Notwithstanding the very great losses which are annually experienced from the ravages of foxes, eagles, and other birds, little ingenuity has been exerted to devise means of destroying them. It would be better for sheep-farmers to have fox-catchers than fox-hunters; and with very little trouble, every one of their shepherds may be made much more useful in destroying those animals than the ordinary fox-hunters, and that without interfering with their attendance on the flocks;—nothing more is required than to put the means into their power, and to hold out some reward proportioned to their success.

'Various pit-falls might be contrived for taking foxes; but poison is the most effectual instrument of destruction, when properly employed, both for foxes and birds of prey. Of the different poisons used for killing vermin, arsenic and corrosive sublimate are the most powerful. Whoever chooses to adopt the following method of using them, will not probably have any cause for seeking a better one.

'Take the carcase of a sheep, and having removed the skin, fasten it to the ground in some open place, with the back uppermost. Make cross incisions into the fleshy parts, so that the squares made by the cuts do not exceed an inch and a half. Separate each piece nearly from the bone, but not altogether. Then make one or two punctures

punctures with a pen-knife, an inch and a half deep into each piece, and fill them nearly full of a mixture of equal parts of corrosive sublimate and arsenic, previously made into a paste with honey. Put all the squares into their natural position, and leave the place.

'When a fox, or an eagle, or a parcel of ravens, or crows, attack the carcase, they will not find much difficulty in tearing off the flesh; and in the hurry of competition for the largest share, they will gobble up the poisoned pieces entire, and soon die. When a carcase is poisoned without cutting it as here directed, the poison is apt to be lost while the animals are employed in tearing off the flesh. By fastening the carcase to the ground, the pieces of flesh will come easily off.

'Should the shepherd be anxious to catch the animals, let him fasten a good strong fish-hook of a moderate size in each piece of flesh, which must, in this case, be entirely separated from the bone, and need not be poisoned. By fastening the hooks to the ribs of the carcase by means of strong wire, both foxes and eagles may be caught. The common pike hooks will answer very well, but a much smaller size will do for birds. Shepherds must take care to keep their dogs out of the way; but if any strange cur should be prowling about in search of a lamb, or a leg of mutton, and stumble upon the baits, he will meet the fate he deserves. It will be proper to select, for the baits, places where sheep do not feed, such as bare moss, or gravel, or some banks at the sides of streams.' p. 116—118.

An account of Sheep Medicines is next communicated, which is followed by an explanation of the several plates, given in a very satisfactory manner.

The Appendix contains various papers concerning the Merino breed of sheep, which we have not room to notice. Upon the whole, Sir George Stewart Mackenzie is well entitled to the thanks of the public for devoting his leisure time to the investigation of subjects confessedly of the highest importance to the agriculture and commerce of the British empire. Of all our domestic animals, the sheep, in every point of view, is entitled to the highest preference; and a very small improvement of fleece, or carcase, would add millions to the national property, besides increasing the stock of human food, and benefiting the staple manufacture of Britain in an incalculable degree. We repeat, that Sir George Mackenzie deserves well of the public, for the trouble he has taken at this time, and hope that he will not lose sight of the important matters discussed in this volume; on the contrary, that his endeavours will constantly be exerted to benefit the husbandry of Britain, and to promote improvement in one of its most valuable branches. N.

General View of the Agriculture of the County of Berwick, with Observations on the Means of its Improvement, drawn up for the Consideration of the Board of Agriculture, and brought down to the end of 1808; *with several Plates.* By Robert Kerr, F. R. S. & A. S. E. Farmer at Ayton, in Berwickſhire. London, Philips. Edinburgh, Conſtable & Co., and T. Bryce & Co. Archer, Dublin. pp. 504. and a large Appendix. 1809.

THOUGH the county of Berwick, or, more properly ſpeaking, that part of it called *the Merſe*, has, for many years, been conſidered as holding out a pattern of good huſbandry, yet, it is well known, that the diſtrict of Eaſt Lothian was brought into a cultivated ſtate at an earlier period; and that every branch of huſbandry, carried on by the diſciples of the old ſchool, was much more completely executed in the latter, than in the former diſtrict. Reaſons for the ſlow progreſs of rural art in Berwickſhire may be eaſily aſſigned. Property of every deſcription was held under an inſecure tenure, till both ſides of the Tweed came under the government of one Sovereign. Even after the acceſſion of James VI. to the throne of England, a long interval prevailed before former habits were removed, and induſtry introduced amongſt the Borderers. At the union of the two nations, agriculture was only partially and feebly executed in Berwickſhire; and it was not ſooner than 1750, that rural art began to rear its head in the diſtrict under conſideration.

Notwithſtanding that agriculture was brought more early into a comparatively perfect ſtate in Eaſt Lothian than in Berwickſhire, yet, it is equally certain, that moſt of the modern improvements were ſucceſsfully attempted in the laſt mentioned county, before they got any thing like a firm footing in the other. Lime and marl were the baſis of Berwickſhire huſbandry, when improvements were ſet about; and owing, in ſome meaſure, to the freſhneſs of the ſoil, theſe calcareous articles were uſed with ſingular advantage. Again, the management of live ſtock being well known in Berwickſhire, its farmers were influenced to cultivate turnips and grain to a great extent, and, in ſhort, to follow the alternate ſyſtem of huſbandry more effectually than their neighbours, whoſe attention was in ſome meaſure devoted to the culture of corn. Owing to theſe circumſtances, the huſbandry of Berwickſhire ſtands at this time high in the agricultural ſcale; and very fortunately the deſcription of it has been entruſted to a gentleman eminently qualified for executing the taſk, as may appear from the following account of his labours.

Berwickſhire is ſituated in the ſouth-eaſt corner of Scotland, lying along the German Ocean, and the north-eaſt border of England.

land. According to the authority of Mr Blackadder, an eminent landſurveyor, the total extent of the county is 290,000 Engliſh ſtatute acres, whereof about 114,000, in the lower diſtricts, are improved, or improveable, and about 175,000 of hill land in Lauderdale and Lammermuir, part of which is alſo improved. The climate, comparatively ſpeaking, is dry; and, though the preceding reporters repreſent it as unfriendly to agriculture, we are inclined to think with Mr Kerr, 'that as the whole lower diſtrict, generally ſpeaking, ripens its grain crops as perfectly, and very nearly as early as any part of Britain north of the Humber, the climate cannot be a bad one.' Every variety of ſoil is to be found within the county; and, along the banks of Tweed, Whittadder and Blackadder, there are extenſive tracts of fine deep loam, but none of a chalky or calcareous nature.

In the ſection upon ſoils, Mr Kerr gives ſome obſervations worthy of the attention of our readers.

'A peculiar kind of ſoil occurs in many places, which is apt to deceive even experienced agriculturists, having a fine free appearance, and often of conſiderable depth, but wanting conſiſtency or tenacity; in other words, not having a ſufficient admixture of clay in its compoſition to enable it to retain manure or moiſture. This ſoil is provincially termed *deaf*, and is almoſt entirely compoſed of finely pulverized ſand of various ſhades of brown,—ſometimes, eſpecially when wet, almoſt black, like fine garden mould. This is moſt extremely infertile, and very ſpeedily exhauſts or conſumes muck, or farm-yard manure. Under ſuperior management, it may be brought to carry tolerable crops of turnips and graſs; but the grain crops upon it are invariably falſe in the ear, and its graſs is extremely liable to become quite dry, as if burnt up, in droughts of any endurance.

'On the ſuggeſtion of an eminent agriculturiſt, it may be proper to mention, that the texture of the laſt deſcribed ſoil might be completely altered, and moſt materially ameliorated, by the application of a ſufficient quantity of clay marl, which would enſure its future fertility. Yet, in general, little of that valuable ſubſtance is procurable in the immediate neighbourhood of ſuch ſoils; and to carry the neceſſary quantity of clay marl from any conſiderable diſtance, would be attended by an expenſe which could not be warranted by almoſt any degree of amelioration.

'In every quarter of the county, moors occur of greater or leſs extent, from ſeveral thouſand acres to patches of two or three acres, and even conſiderably leſs than an acre. In the low country, theſe are uſually on the flat tops of the iſolated or detached hills, but are often interſperſed among the vale lands. They are compoſed of various kinds of ſoil: for the term *moor* is extremely vague in its uſe and ſignification. Some are of a thin poor clay, upon a bad till bottom; others of a thin ſurface of peat moſs, wasted to a kind of black light earth, often mixed with ſand, upon a ſubſoil of impervi-

ous till, or a compacted clayey sand, apparently ferruginous, like a bad species of sandstone not perfectly lapidified. This peculiar species of subsoil is provincially called *Moor-band*, and, like the coarse clay or till bottom, is absolutely impervious to water; hence, the thin superincumbent peat soil is a soft mortar in wet weather, and becomes sterily dry in droughts of the most moderate continuance.

'Another kind of soil called dry moor, found in many places, is composed of a thin sandy, or gravel soil, upon a free bottom. This is susceptible of cultivation and improvement, and is lessening every where by that means, where not too elevated on the Lammermoor hills, to defray the expense. When improved, this becomes a turnip soil.

'The hills of Lauderdale and Lammermoor are usually denominated *the moors*, and, where unimproved, are partly covered by sound short natural grass, forming excellent hill pasture for sheep, that are sufficiently active and hardy for such exposed situations. Where of sufficient depth of soil, and not in too high elevations, these may be improved into tolerable turnip soil, and very much ameliorated as pasture land; and extensive tracts of this kind of moor have been so improved, or actually are under a course of improvement.

'Other moor or hill lands are productive of a rank coarse grass, intermingled with various species of rushes, generally called bents and sprats, and with other marsh plants, which make tolerably good summer pasture for small black cattle. By judicious draining, and other means of improvement, the herbage of this kind of moor may be much amended, and even converted to healthy sheep pasture, or, by means of irrigation, might be made productive of hay, where that improving process is practicable.

'Large extents upon the hills or moors are overgrown with heath, provincially named *heather*, *quasi* the heath plant; and some by furze or gorse, provincially called *whins*. The value or fertility of such lands may be generally assumed as in direct proportion to the vigour with which these plants grow. Hence, wherever they vegetate luxuriantly, improvement may very reasonably be expected to answer; and, on the contrary, where these are stinted and scanty in their growth, the soil may be considered as too barren to repay the expenses of cultivation. Broom is a sure indication of a dry sandy soil, and sound free bottom; and where this plant grows tall, thick, and strong, if other circumstances are favourable, the soil may almost certainly be improved into tolerably good turnip and grass land. Ferns, like broom, affect deep dry soil, upon a sound bottom, and may therefore be considered an indication, that the place of their vigorous growth is worthy of attention.

'After judicious improvement upon tolerably good soil, heather never returns, unless the vegetative powers of the soil have been exhausted by over-cropping. But, after the most perfectly devised and well executed system of improvement, when land which formerly carried whins or broom is laid down to grass, the seeds of these shrubs,

s, remaining in the soil, are sure to vegetate, and to become lesome. If left to themselves, they will soon again usurp the ven more abundantly than before it was cultivated and im- d. But constant attention to pull up the seedling plants by after rainy weather, when the soil is thoroughly drenched and tender, will completely eradicate these plants in a few years, t a moderate expense,—so long only, however, as the land re- in grass. When broken up again for tillage, the seeds of these , which still remain in the soil, and are again brought within getative influence of the sun and air, and weather, will now ; and it will require the repetition of similar attentions, to pre- hese new seedlings from usurping possession of the soil, in ex- n of the cultivated herbage. A long continued series of good husbandry is necessary for effectually eradicating these plants and in which they have largely shed their almost imperishable imperishable in any known length of time, while buried in l, below the vivifying influences of the sun and air, but uni- vegetating whenever these influences reach them, in conse- e of turning them up by the plough.' p. 31—35.

er describing the state of property, Mr Kerr offers the fol- g judicious observations.

any of the landed gentlemen reside upon their estates, either ally, or at least occasionally, and cultivate a portion of their ands for conveniently supplying their families and stables. even pursue the practice of agriculture extensively, with great nd judgment. There cannot certainly be a more rational, or ontinually varying and amusing occupation of time, for the ent of a country gentleman, than the detailed superintendance icultural pursuits, united with attention to the improvement bellishment of his estate, by enclosing and planting. With- s healthful and interesting employment, a man of keen mind dependent fortune, residing in the country, must resort to the tional amusements of hunting and shooting, or to the dull pur- f angling, to occupy his vacant time.

considerable number of farmers in this county have become tors of respectable estates, acquired by their own, or their fa- successful and enlightened industry; and they still continue to pon their own lands, and on farms belonging to other pro- s, the same unremitting judicious attentions, by which they, ny of their brethren, have realized handsome independences. farming, at least in this and other improved districts, is not be carried on, either for the interest of landlord or tenant, with the command of a respectable capital, and directed by us and persevering industry.

has been reported of a great landed proprietor in a distant , that he expressed high indignation on hearing that one of his had bought a small estate; supposing, doubtless, that on casions the tenantry must have enjoyed profits from their pos-

sessions, which, under other circumstances of management, might have gone into the coffers of their landlords. But our more enlightened Berwickshire proprietors know well, were their tenantry to have insecure holdings, and to be always racked to the utmost possible payment, they could neither improve their farms, nor acquire any opulence, and consequently could not give large advances of rent upon every successive lease, to enrich their landlords. Were it possible to reduce the present affluent and intelligent race of farmers, to the miserable situation of our ancient *teinders* and *thirders*, or of the *metayers* in many parts of the Continent, instead of thereby adding to their own riches, proprietors would reduce themselves to deserved beggary, along with their oppressed dependants; and, if universally followed, would involve their country in certain ruin. In this report, the connexion between English landlords and their tenants at will, and the consequent necessary imperfection of husbandry, wherever that system prevails, cannot be taken into consideration; yet it may be allowed to say, that such tenantry never can improve the land to the utmost, and can never, therefore, afford to pay the full rental value for which their possessions would let, under the security of leases of reasonable endurance.' p. 51, 52.

We do not know the landed proprietor alluded to in the foregoing passage; but, whoever he may be, and whatever may be his rank, the justice of Mr Kerr's observations must be admitted by every liberal-minded person. To cultivate arable land, requires such a large capital stock, that he who farms extensively could live decently upon the interest of that stock, without running any risk, or undertaking any trouble. Now, when that stock is devoted to the cultivation of the soil, its owner is certainly entitled to expect some reward for his trouble; and, if active and industrious, even to save money, which he may either lay out in the purchase of land, or in any other way more agreeable to his wishes. And what right has the proprietor of such land to complain at the success of his tenant? None at all. He has rather cause to rejoice at having got a good tenant;—one who is capable of cultivating the land in a sufficient manner;—one who is able to make good his engagements;—and, in short, one who conjoins patient industry and judicious activity. No estate in Britain was ever improved by poor tenants; and as seldom has any been injured by tenants of a different description. Besides, were the subject viewed in a different light, it might be asked, upon what pretence should proprietors feel indignation at the prosperity of their tenants? Land, like every other commodity, is now disposed of for a limited term, at the very highest price it will bring in the public market. If the market value of the article increases after the bargain is concluded, is the tenant to be blamed for such an alteration? Certainly not. Had markets

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taken a different course, and the value of land been depressed, the tenant's rage might, with equal propriety, and with much more reason, have been excited against the proprietor. The one may be ruined by a fall in the value of land; whereas the other, from the nature of our laws, is always sure of receiving the sum stipulated, if it can be found upon the premises; consequently can never suffer a material loss, even though the tenant may be ruined and beggared.

Speaking of the Property-tax, Mr Kerr favours us with several just and appropriate remarks on the consequences of that tax to the tenantry of Scotland. Were tenants actually in possession of the income for which they are rated, few would complain at being assessed one tenth thereof in support of the public service; but, as income is rarely drawn from land equal to one half of rent; and as, in numberless cases, especially in the first years of a lease, it is morally impossible that income can be derived from land, a revision of the act, by which it is laid on, seems to be a necessary measure. At all events, the tax is an unequal one; and it must remain so till a Court of Appeal is appointed, before which tenants may be heard, and have their grievances redressed. Even though the criterion assumed for ascertaining income was considerably modified, the tenantry must suffer, unless a Court of Appeal is erected. No doubt, if the criterion was reduced to one fourth of rent, or even to one third, as suggested at the meeting of Scotch Members of Parliament in London, the sufferings of individuals would be lessened: but why a tenant should be assessed for income which he does not actually possess, and why a distinction should be made betwixt him and a trader, are questions of political economy, too mysterious for us to investigate.

Mr Kerr says—

'It cannot be overlooked, that the system by which the property-tax is assessed upon farmers, does not appear to be equitably parallel to that which regulates its exaction upon the other classes of the community. For farmers, the utmost stretch of their rents, or the utmost valuation which their lands would bear, in prospect of a new lease, is assumed as the measure for their payment. In this way, they are made to pay a large per centage upon a presumed income, of which they very often do not enjoy a half, a quarter, or an eighth part, more especially during the first five, six, or seven years of a new lease, upon a farm that requires extensive and costly improvements. So far from a farmer, in such circumstances, enjoying any income, commensurable by the amount of his rent, it often happens, that, to pay rent, wages, and taxes, to maintain his family with the utmost frugality, and to improve his land, he has to expend for several years from his capital, or by means of borrowed money.

a sum little, if at all inferior, to his actual rent; often much larger. In this case, certainly, and until his debt, or capital, is replaced, from the excrescing produce of his farming improvements, he may be fairly and equitably pronounced to have no property producing income, that ought, in justice, to become the subject of taxation, upon the general principles of the property-tax, as applicable to all other descriptions of subjects. Upon a farming concern of the above description, carried on by a copartnery, there certainly could be no profits to divide, so long as its affairs continued in the predicament here founded on. The farmer's proportion of the property-tax ought to be levied upon his actual profits, precisely as in the cases of manufacturers and merchants; and surely a merchant or manufacturer, who has adventured a large capital upon a distant voyage, would not be assessed to the property-tax on that adventure, until the returns of the proceeds had produced an actual profit.

'Farmers, like all other men engaged in business, besides the differences already mentioned, and those which arise from adverse seasons and fluctuations of markets, are liable to losses in trade from the bankruptcy of corn-dealers, butchers, wool-buyers and jobbers in sheep and cattle. But by the present principles of the property-tax, as applicable to them, they are compelled to pay as much under the most adverse circumstances, even though tottering upon the brink of ruin, as when their affairs are prospering to the utmost of their wishes. All other descriptions of the subjects are exempted from the property-tax under such circumstances of loss, in so far as these tend to diminish or annihilate their yearly incomes.

'Three hypothetical cases may be stated, for which parallels may be found, with infinite intermediate gradations, in most thriving agricultural districts. A. B., towards the close of an advantageous lease, pays 1000*l.* a year of rent; his farm is valued for the property-tax at 2000*l.*; and he perhaps derives 1500*l.* a year, profit from his farm. C. D. has entered to an improved farm at 2000*l.* a year of rent, and perhaps clears 500*l.* a year of profit. E. F. has taken possession of a farm at a rent of 2000*l.* a year, requiring extensive improvements, from which he can derive no profits whatever for several years, and on which he must expend perhaps 5000*l.* of capital before he can possibly look even for the commencement of reimbursement, far less for any actual profit. All these three, however, are chargeable to the property-tax, upon similar hypothetical principles of presumed profit; while, in strict equity, A. B. ought to pay three times as much as C. D.; and E. F. ought to be exempted. Such, unquestionably, would be the relative situation of these three, were they merchants, manufacturers, or West India planters, in similar circumstances as to profit.' p. 55—57.

The nature of *feuholding* being somewhat different from the tenure called *copyholding* in England, we extract the following paragraph for the information of our English readers.

'*Feu-holding.*—

'*Feuholding.*—Great numbers of small properties, and even some of considerable extent, are held by feu-rights, or by what is equivalent to charter, infeftment, and sasine, under those who hold directly from the crown or prince. In those cases, the immediate holder from the crown or prince is called the subject-superior; and the person holding under him is termed the feuar, or subvassal. This last is absolute owner of the soil, and of every thing or circumstance connected with it, *de cœlo ad centrum;* and is said to possess the *dominium utile,* while the superior has right only to the naked superiority, called *dominium directum,* but which includes the whole political rights attached to the property; unless when the superior has reserved, in the original grant, certain rents and casualties of superiority; or where he may have reserved the mines and minerals, with the right of searching for and working these, upon payment of surface-damages. The vassal, upon the transmission of the feu into new hands by succession, is bound to take out new investitures from the superior, in the nature of a charter, with consequent infeftment and sasine, on payment of the ordinary fees, and one year's feu-rent, as fine of renewal. When the property changes, by sale, to what is called a singular successor, a different fine becomes due to the superior, which is either legal or conventional, but is never arbitrary, or at the will of the lord. By paction, the original grant, or feu-disposition, often determines the amount of this fine,—usually the payment of one year's feu duty in addition. When that is not the case, the law has fixed it at a full year's real rental value of the subject at the time of renewal. These dues are termed casualties of superiority, as only happening contingently.' p. 68, 69.

Under the head of *General Remarks,* section 5th, chap. 3d, we have several excellent strictures upon a subject which some years ago met with much discussion. We are clear that all farm-servants, who are married and in possession of a house, ought to have cows kept for them by their masters; because a full supply of milk is of great advantage in rearing their families: but, on the other hand, we are hostile to the measure of giving them ground, especially for raising winter food; considering every thing of that nature not only as injurious to agriculture, but unfriendly to the interest of the cottager. The same things may be stated against the absurd measure recommended by some people, of taking cottages out of the farmer's hand, which, if generally carried into execution, would in fact be productive of the most mischievous consequences.

'Much has been said, of late years, about accommodating the laborious poor with small patches of ground for cultivation, and giving a cow's grass to each cottager, certainly with the most benevolent intentions. The reporter is anxious to avoid all controversial matters, and wishes merely to describe the actual state of Berwickshire as relative to agriculture; yet he hopes a few general observa-

tions on this subject will not be considered as stepping beyond his province. Day-labourers have no leisure for attending to the cultivation of any extent of land; and therefore a small garden for potatoes, for cabbages, and other pot-herbs, is perfectly sufficient for the accommodation of each. Any thing further would break in upon their time of labour for hire; and the farm-work of Berwickshire is fully sufficient, in all seasons, for all that are willing to work.

'For grazing the cows of such villagers as choose to have that accommodation, small grass fields may always be hired yearly, in this county, in the neighbourhood of every town and village; and it is now very common for the villagers to form clubs or copartneries, for taking such pasture-fields at the annual auctions, for their cows and horses. The Berwickshire accommodations for married servants, in regard to cows and potatoe grounds, have been already slightly noticed, and will be more particularly explained in another division of the report.

'Were a day-labourer provided in a cow's grass, and land for cultivation at an undervalue, besides the obvious loss to the proprietor, it would, for the most part, render him lazy, and useless to the neighbourhood; he would either be in constant miserable poverty, from his indolence, or so independent that he would refuse to work, unless paid much beyond the average wages. To make him a small farmer at an adequate rent, would deprive the tenantry of his labour altogether, and would force him to work far beyond the ordinary exertions, to enable him to live in misery, and to pay the ordinary rents. Such a plan, in this county at least, would establish a new class in rural society, for which there is no place, in the present scanty population. Even were the population superabundant, it is very questionable if such a description of people would be useful to the community, or decently comfortable to themselves and families. In years of ordinary fertility, they might make shift to subsist; but, in years of scarcity, they would necessarily be subjected to misery and famine, and would at all times intercept the supplies from the manufacturers, the inhabitants of towns, and the military and maritime protectors of the country. Every one of them can at present procure, at the current price, as much ground as suffices to grow potatoes for their families, and may, if they choose, keep cows on the principles already stated. Even the usefulness of cow-keeping in small villages, is necessarily limited to the demand for milk; and it has happened frequently, from the supply being beyond the demand, that village cows have not nearly paid their expenses. In every parish, the justices ought rigidly to debar the keeping of cows or horses by such cottagers as have not taken adequate pasture for their regular maintenance; as some, under pretence of pasturing by road sides, are guilty of great depredations on the neighbouring farmers; turning in their cattle under night, even into hay fields and standing corn, and stealing clover, hay and corn sheaves.

'Were those labourers or hinds, who belong to the continually recurring

curring operations of agriculture on each farm, to be placed in situations either altogether, or even partially independent of the respective farmers to whom they are attached, instead of assistants they would become incumbrances, and would completely counteract the tenants' power of cultivating their farms with energy and propriety. They would effectually prevent the farmers from thriving, from doing justice to their land, and, consequently, from paying any thing like adequate rents; and would themselves ultimately become useless, dissipated, and worthless paupers. As well might the legislature impose upon the nobility and gentry a set of privileged coachmen, butlers, and land-stewards, independent of their controul, as that the great landlords should fix cottagers upon their tenants, as hinds or ploughmen, hedgers and labourers, over whom the immediate masters had no direct command, and could not turn them off for better behaved servants. To follow out this subject, would lead to discussions for which the reporter has neither room nor inclination.' p. 104—106.

Mr Kerr warmly supports what is called the alternate system of husbandry, and describes the benefits flowing from it with singular precision.

'In the occupation of their land by the tenants and by farming proprietors, so generally as to be almost universal, aration and pasturage follow each other alternately, to the great advantage of both. By means of the former, rich crops of grain are raised, and abundant store of turnips, clover and cultivated grasses are supplied for the winter food of horses, cattle and sheep. By the latter, the soil is continually renovated, and preserved in vigorous fertility. And by this alternation, the particulars of which will be detailed hereafter, much larger quantities of beef and mutton and grain are produced for market than could be derived from the two branches constantly pursued on the same quantity of equal land, in separate farms, or on separate fixed portions of the same farm.

'Under this system of alternation, judiciously conducted, it may confidently be asserted, that a farm, of 1000 acres, for instance, will raise as much grain as one of equal size entirely under perpetual tillage, and will produce, in addition, as much beef and mutton and wool, as a separate farm of 200 to 300 acres under permanent grass. If this estimation be well founded, of which the reporter has no doubt, this alternate system is obviously of superior profit to the tenantry in the first place, to the landed interest secondarily, by increased rents, and to the public ultimately and always, in the proportion of at least 25 per cent. beyond what can be produced from the two branches separately pursued on the same extent of equal land.

'The effects of this superior system upon the floating and accumulating active husbandry stock of the kingdom at large, upon the facilities for encouraging and supplying an increasing population, for extending

extending manufactures and commerce, for replacing the men that are lost to the state in war, navigation and colonization, and for assisting to support the continually increasing pressure of financial arrangements, must be vast. These effects form the commencement of a solid system of political arithmetic, in a continually advancing ratio of amelioration, which belongs not to the present object to investigate, and which the reporter gladly leaves to be prosecuted by others more conversant in such studies and discussions.' p. 114–16.

In the sixth chapter, which professes to treat of *enclosing*, Mr Kerr mentions, that a great part of Coldingham moor, divided in 1777, has been found unimproveable by the plough, and thinks that, 'had the money laid out in abortive attempts to improve that waste into good corn and grass land, been judiciously employed in fencing and planting the whole, it would, by this time, have amply repaid thrice the value of its fee-simple, and all charges, with compound interest.' Here we perfectly agree with him. The account of the division of Chirnside Common, may be useful to our readers; therefore, shall be presented entire in next Number.

A very good account of the process of summer fallow is given; and it is with justice maintained, 'of every farmer on strong soil, that his affluence and prosperity will always be in direct proportion to the extent and excellence of his fallow break, every thing else being well conducted.' Sentiments of this nature are so congenial with those repeatedly urged in this work, that we cannot help recommending the section which contains them to the serious consideration of antifallowists. The turnip system of Berwickshire is also amply illustrated; but, as we have more than once explained that system at considerable length, it seems unnecessary to enter upon it at this time.

Speaking of soiling, Mr Kerr expresses a favourable opinion of that practice. He says—

'It is generally allowed, that soiling is singularly advantageous. By it the same quantity of stock can be fed from a greatly less extent of land, than by pasture. A large quantity of excellent disposable muck is produced, at a season when none at all can be had without that practice; and which muck, produced by the same stock on pasture, would be scattered over the grass land; much of it wasted by evaporation, and much of it carried away by insects. Besides, that the pasturage of horses is apt to injure sheep stock going on the same land.

'This soiling process, however, is chiefly due to the clover crop; and the tares only serve the highly useful purpose of continuation between the two cuttings of that crop.

'The value of an acre of tares may probably be equal to that of an acre of clover; and may average from six to eight guineas, according to the soil and seasons.

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'In summer 1806, the reporter kept six work horses and a riding poney in the fold-yard upon cut clover and tares, for four months; and having fortunately preserved the memorandum of the extent of ground cut for this purpose, has it in his power to give something like an estimate of the advantage. Two acres of first crop of clover were expended, and half an acre of tares before the clover would cut a second time. These, at seven guineas an acre, is 18*l.* 7s. 6d. It required twelve acres of second crop clover at 30s. (18*l.*) to carry on the horses.

'The expense of cutting and leading may certainly be considered as fully compensated by the value of the muck produced; so that the whole expense of feeding seven horses during four months, amounted to 36*l.* 7s. 6d. These would certainly have required six acres of the clover in pasture: consuming both crops, and estimating these at the same value with the two cuttings, 8*l.* 17s. an acre, the horses would have cost, for the same period at pasture, 61*l.* 19s.; leaving a fair profit of 25*l.* 11s. 6d. in favour of soiling; or 3*l.* 13s. for each horse. Could the same plan be extended on the same farm, to its cows and young cattle, the profit upon the whole would fall very little short of a hundred pounds a year, upon a hundred and thirty acres. But soiling to that extent would require more accommodations than the farm possesses, and would too much interfere with the hay crop, which cannot be wanted for winter use.' p. 261–3.

We have already mentioned, that lime and marl were the basis of Berwickshire husbandry, when improvements were first introduced. Lime is still used to a considerable extent; and, latterly, a new practice (new in Berwickshire at least) has been introduced, of mixing it with good earth, and applying the whole as a compost to the soil. This is a commendable way of using lime in the second stage; therefore, cannot be too extensively followed, where materials are at hand. Amongst other things, respecting lime, Mr Kerr states, that

'Lime is a most especial foundation of the improved husbandry of this county, into which it is almost all brought from the south side of the Tweed, at great expense, or is landed at the port of Eyemouth from kilns on the coast of Northumberland and Durham. The ordinary allowance to the acre of land, which has not been recently limed, is from thirty to forty bolls of lime-shells unslacked, each containing about four Winchester bushels; and consequently from a hundred and twenty to a hundred and sixty bushels to the acre. Before laying on the land, it is allowed to slack in the air, so far at least as to fall to powder; or it is sometimes slacked by water led for the purpose. When in a powdery state, it is equably spread over the land from the carts by shovels.

'Including first purchase, carriage home, and spreading, lime may fairly be reckoned to cost on an average half a crown the boll, or sevenpence halfpenny the bushel; so that the expense of liming

an acre of land will amount to from three pounds fifteen shillings to six guineas, or five pounds on the average. Hence, to go completely and effectually over a farm, of six hundred acres, may fairly be said to cost the farmer three thousand pounds; and on most farms the operation has to be repeated once during a nineteen years lease, at an expense of six thousand pounds; averaging about three hundred pounds yearly on the farm, or ten shillings yearly on each acre.

'On the first introduction of liming in this county, a much smaller quantity was found efficient; and from twenty to thirty bolls was then usually given. But experience shows that, on repetition, the dose has to be increased. And in East Lothian, where liming has been much longer generally established than in Berwickshire, eighty bolls, at the probable expense of about ten pounds the acre, are said to be now frequently given. In that county, the lime is now often formed into a compost, by mixture with earth, either the surface of a thick soiled head land, or gathered from old hedge banks, roadsides, and the scourings of fence ditches. But as that practice has not made much way hitherto in this county, no particular account can be given of its effects, which are said to be highly beneficial.

'Indeed, since the first draught of this report was written, considerable progress has been made in this new manner of applying lime, mixed with earth into a compost; and, from its evidently useful effects, it is every year gaining ground. Farmers in every corner are seen anxiously collecting good earth from every accessible source, and forming it into composts with quicklime; which, when intimately mixed, they spread over the land.' p. 367—369.

A new kind of manure is mentioned by Mr Kerr, viz. spoilt herrings. We hope that herrings are not often spoilt; therefore seldom used as manure to the soil. Still, as things of that nature may happen, his account may be acceptable.

'Eight or ten years ago, a cargo of spoilt herrings was sold for manure at Eyemouth, of which the reporter procured 200 barrels. These were spread upon land intended for turnip fallow, at the rate of 25 barrels to an acre, and ploughed under before winter. In the ensuing spring, when the land came to be again ploughed, hardly the smallest vestige, even of the heads and bones, were to be seen. Without any other manure, the turnips turned out a full crop; and the subsequent grain and grass crops were perfectly satisfactory. The herrings were bought for less than a shilling a barrel, so that the land was manured at a very cheap rate. This, however, was a mere incident, as no such opportunity may ever occur again.' p. 378.

Some excellent observations are given about making and repairing roads, with a correct account of the new line of post road betwixt Berwick and Dunglass bridge; but we are sorry that our limits will not allow us to notice these matters. Upon the whole,

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a full, and, we believe, a correct, description of Berwickshire husbandry, is given by Mr Kerr; and the only fault we have to the performance is, that it is rather too diffuse, whilst the arrangement, in several respects, may be considered as somewhat complicated. The author, however, is not to blame for these things; having strictly adhered to the plan prescribed to him by the Board of Agriculture—a plan wherein so many particulars are involved, as to render the drawing up of a county report one of the most difficult tasks that can be undertaken. In fact, the sections are now so wire-drawn, that it is almost impracticable to avoid repetition, even when the greatest attention is exercised by the reporter. N.

A Sketch of the System of Husbandry adopted in the most improved Districts of Scotland; and a General View of the Principles upon which it is founded. Drawn up for the Consideration of the Board of Agriculture, with a view of explaining how far that System is applicable to the less cultivated Parts of England. By Sir John Sinclair, Bart. Edinburgh, 1809.

THE husbandry of England, till within these few years, was always considered to be much superior to that of Scotland; and it would not be difficult to assign reasons why that primary and necessary art flourished in the southern, whilst it was neglected and despised in the northern parts of the island. Circumstances, of late, however, seem to be completely changed; for, whilst improvements have rapidly spread through the low country districts of Scotland, agriculture in England has generally remained in its former state, except, perhaps, in Norfolk, Suffolk, Essex, and one or two more counties. Were there the slightest doubt concerning the correctness of these statements, it might at once be removed by a reference to the rents actually paid in both countries; the result of which would clearly establish, that husbandry must be exercised in a different way in Scotland than in England, otherwise those concerned would soon be ruined and undone. It is believed, that many English proprietors are now beginning to reflect upon these matters, wishing, no doubt, to draw the same advantages from their landed property as are obtained by their Scottish brethren. To explain the present state of Scotch husbandry is therefore the object of Sir John Sinclair. It will be more difficult, however, to explain the causes which have retarded the improvement of English husbandry, and prevented farmers from paying rents of the same amount or value as are paid by Scottish farmers in every quarter. In fact, these causes are of

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a complicated nature, though we trust they will be elucidated in a satisfactory manner by the Honourable Baronet in the treatise he is now preparing. It is only the introduction to that treatise which is now before us; but, judging that a more acceptable compliment cannot be paid to Sir John Sinclair, we select his account of '*The Causes which have contributed to the Excellence of Scotch Husbandry.*'

'Various reasons may be assigned, why the husbandry of Scotland should be of a superior description.

'The inferiority of its climate rendered it necessary to pay particular attention to every means by which so great disadvantage could possibly be counteracted.

'The small proportion of fertile land which it possesses, rendered it peculiarly valuable, and was a strong inducement to make it as productive as possible. Where nature is bountiful, man is too apt to become indolent.

'The skill and experience which the Scots had obtained in gardening, gave them a high idea of the produce which might be obtained from land, by due attention to its culture.

'It was in the counties which border upon England, that the improved system of Scotch husbandry began; and, at the same time, there commenced a useful rivalship between the Borderers of the two kingdoms, which tended to their mutual improvement.

'Many of the farmers in Scotland were not only well educated, and fond of perusing works on agriculture, and thence were, in a great measure, exempted from any prejudice in favour of particular modes of husbandry; but some of them also were accustomed to travel, with a view of acquiring useful information, and of comparing the improvements of other districts with the practices at home.

'The proprietors of land in Scotland were distinguished by the acquisition of useful, rather than of showy accomplishments; took a delight in rural occupations, and either improved their estates themselves, or encouraged their tenants to exertion.

'It became a fashion in Scotland to grant leases; without the possession of which, no material improvement, *on the part of the tenant*, can possibly be expected. Nor have *extensive* improvements taken place in any part of England, but where the same custom has prevailed.

'As soon as improvements began, the *rents of lands were greatly increased*; without the spur of which, neither industry in cultivation, nor economy in management, can be looked for. Oppressive additions ought certainly to be avoided; but, without a fair income for his land, no proprietor ought to part with a controul over his estate, more especially for so long a period as 19 or 21 years. A tenant, on the other hand, who obtains a lease of some duration, and on liberal terms in regard to covenants, can well afford a handsome augmentation, at least after the first two or three years of his lease have expired.

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'A considerable proportion of the most fertile land in England, till bills of division and enclosure were introduced, was actually debarred from improvement, by the common-field system; whereas in Scotland, for many years past, every farm was a distinct possession, or held in severalty.

'It was a circumstance peculiarly favourable to the improvement of Scotland, that the farmers in general were liable to no material burden but the rent they pay to the landlord, by whom the land-tax, and the stipend to the minister, were paid. Wherever there is any uncertainty as to the sums to be exacted, (more especially if the burden increases with the industry exerted), nothing can be more hostile to improvement.

'The expense of labour in Scotland is also cheaper than that in England. The servants employed in husbandry are more tractable, are satisfied with homelier fare, are less accustomed to waste their time and their wages in ale-houses, are more regular and constant in their hours of labour, have fewer perquisites, and are less addicted to debauchery.

'The circumstances of the Scots, when their improved system of husbandry commenced, rendered it necessary for them to study economy, to cultivate their land with fewer horses, with cheaper implements, and with a smaller number of servants; and hence originated a system of management, distinguished by two important advantages, *economy* and *simplicity*.

'In the more improved districts of Scotland, the farms are in general of a proper size for arable culture, namely, from 200 to 500 acres. Small lots are beneath the attention of an opulent and intelligent farmer. Much time is lost in the cultivation of small farms, and much expense must be thrown away, where the servants and cattle have not constant occupation; whereas, with a farm of a proper size, every hour may be advantageously employed. Grazing farms may be more extensive; but the best size of an arable farm is from 200 to 500 acres. Some farmers, at the same time, can advantageously cultivate a still greater quantity.

'The fields in Scotland (in general from 10 to 15 acres) are of a size better adapted for arable cultivation than the generality of those in England. The necessity of frequent turnings, by which much time and labour are lost, is thus done away. It is hardly possible, indeed, that a small field can be so completely ploughed as a large one, more especially where the form is irregular.

'Small fields, enclosed with hedges, are well calculated for the growth of herbage, but are unfavourable to the production of grain. A great deal of ground is lost; the hedges are a shelter for birds and vermin, and generally a nursery for weeds; and the grain produced near the hedges is uniformly of an inferior sort. In the improved districts of Scotland, on the other hand, the fields, though generally enclosed, are not formed into such small divisions as in England. Hence the country is not so beautiful to the eye; but the climate is certainly

certainly healthier, the soil more productive of corn, and the produce of superior quality.

'The convertible system of husbandry, or alternate crops of grain and green crops, including the abolition of fallows on turnip soils, is completely established in Scotland; and is by far the best mode that has hitherto been suggested for the productive cultivation of a much larger proportion of England than is generally believed to be the case.

'It has been justly remarked also, that the improvements in England took place at an earlier era than those in Scotland, before the human mind had fully ripened, and before a knowledge of mechanics and chemistry, or the habits of mercantile accuracy had been brought to any degree of perfection; and rules, to a certain degree advantageous, having been at once established, there arose a strong prejudice in their favour which it was difficult to eradicate. Whereas those in Scotland commenced at a more advanced and enlightened period of society, when great improvements had been introduced in the conduct of all sorts of business, and after a general spirit of inquiry, of industry, and exertion, had been excited.

'In the last place, the character of the Scots—industrious, economical, and persevering—would naturally enable them to reach a considerable degree of excellence in any art or science to which their attention might be peculiarly directed.

'These circumstances combined, will, it is believed, sufficiently explain, why the system of husbandry adopted in Scotland should have reached a considerable degree of perfection, and may, in various respects, be accounted a pattern for other districts, in so far as regards *arable cultivation*.

'In prosecuting this important inquiry, it is proposed to give some account of the following particulars. 1. The rents paid for lands in the more improved districts of Scotland; 2. The rotation of crops therein adopted, and the average produce of each crop; 3. The average value of such produce at the present prices; 4. The expense at which that produce is raised; 5. The implements of husbandry used by the Scotch farmers; 6. Their tillage system, depth of ploughing, &c.; 7. Their mode of harvesting grain; 8. The proportion of arable and grass land preferred by them; 9. The size of fields best calculated for arable cultivation; 10. The Scotch turnip culture; 11. The culture of potatoes adjoining to towns; 12. Their culture of beans and peas, and how far they consider the drill system entitled to universal adoption; 13. Their management of manure,—in particular, lime, dung, and composts; 14. Their mode of soiling cattle and horses, and the expense of maintaining them; and, lastly, any other miscellaneous articles characteristic of Scottish husbandry; to which will be added, an account of such practices, not hitherto much known in Scotland, as are the most likely to improve the agricultural system of that country.' p. 5—11.

Though

ough we entertain no doubt but that a clear and accurate pic-
f Scotish husbandry will be furnished by Sir John Sinclair, yet
: afraid that some matters may only be slightly noticed, which,
humble opinion, will materially obstruct every attempt to im-
the husbandry of the country proposed to be benefited. We
nly leisure to offer one or two remarks upon these matters.
: first place, unless Sir John Sinclair probes his subject to the
n, assigning the real causes which have brought about the im-
nent of Scotland, and recommending several changes in the
al economy of England, slender benefit can be gained from
ost finished picture of Scotish husbandry; because, till the
and political obstacles in the way of improved agriculture
moved, the picture cannot be imitated by English agricul-
. To be more particular — Unless the honourable Baronet
that the full value of land is not to be obtained from a tenant
it giving him the security of a lease of a suitable length;—
he shows that restrictive covenants, except in the conclud-
ars of a lease, are eminently hostile to the interest of agricul-
ind of no benefit to proprietors;—unless he shows that all
on rights in land are adverse to improvement, and demon-
the necessity of passing an act for holding all land in seve-
—unless he shows that tythes, poor-rates, and every variable
burden ought to be removed from the tenant, and sustained
landlord;—we say, unless Sir John Sinclair recommends all
things, his treatise will, comparatively, be of small benefit,
at matters will continue nearly in the same state as they are
sent. But we trust better things of Sir John, believing he
with us as to the causes which have retarded the improvement
glish husbandry; and that he is well aware no material im-
nent can be generally introduced, till the obstacles we have
ceded upon are in one way or other removed.
tly, As Sir John Sinclair knows quite well that the improve-
of Scotland proceeded chiefly from the salutary enactments
Legislature in the seventeenth century, we hope that these laws
fully described, and the advantages flowing from them enu-
d, when he comes to make up his report to the agriculturists
land upon the merits of Scotish husbandry. In fact, we con-
he inquiries in which Sir John Sinclair is now laboriously en-
to be the most important that at any time have come under
sideration; and believe that his character as an agriculturist,
osterity, will depend much more upon the result of these in-
, than upon any of the measures which hitherto have occu-
s attention.

N.

BRANCH III.

AGRICULTURAL INTELLIGENCE.

THE weather through harvest was far from being favourable to the processes of the season, especially in the end of August and beginning of September, whereby a considerable part of the wheat crop was sprouted in several counties, to the great loss both of the farmer and the consumer. Afterwards, the weather was rather teazing and vexatious, than injurious to the several crops; and, ultimately, the whole were got into the stack-yard with less damage than is often sustained in seasons apparently more genial and temperate.

Something like the same opinion as was stated in last Number, may be given of the grain crops, except with regard to peas, which crop will almost be unproductive; therefore, of small advantage to the farmer, except as fodder for his working stock. Wheat, in many districts of Scotland, is not superior as to quantity, and much worse as to quality, than in the preceding year; but, in England, it is generally inferior, perhaps to the extent of one fourth, to a common average. Barley and oats, according to all our accounts, are fair crops. Beans better than last year, at least in Scotland, where the black canker, and other diseases, were rarely known upon the fields occupied by this valuable leguminous article.

As to the esculent crops, potatoes, in numerous instances, have proved defective, particularly upon wet soils; and, though a great breadth of land was occupied by this root, there is reason to presume that the markets will not be so well supplied as they customarily are. The quality is variable; and, as many were taken up under adverse circumstances, great care will be required in preserving them during frosty weather. Turnips prove rather better than could have been expected, considering the defective seed used in numerous instances, and the bad weather experienced when the seed and cleaning processes were going forward. The mild weather of October was favourable to the growth of this root; though, still, the crop is a short one upon all the wet soils, and in few cases so heavy as often witnessed.

The sowing of wheat was performed imperfectly, in many districts. In England, at least in some counties, it was alleged, that the ground was too dry for receiving the harrow; but, in Scotland, a very different account must be given; as, in the eastern districts, where wheat is most sown, the land was generally too wet for being harrowed with advantage. Indeed, the fallow fields were rarely got into sufficient order at the proper season. Being drenched with an excessive quantity of moisture in August and September, they never parted with it till turned up by the plough, after harvest-work was finished, and even then were tough and untractable under the harrowing process. Whether the next year's crop of wheat may be a good one, depends upon many circumstances, that grain being less affected by an adverse seed-time than any other: but one thing

is almost certain, viz. that a long rotation cannot be carried on upon any land summer-fallowed this year, because none of it was fallowed in a sufficient manner; consequently, fewer of the aboriginal possessors of the soil were removed, than commonly takes place in seasons when that radical process is substantially and completely executed.

Markets for grain have not been brisk for some time,—a circumstance which cannot afford any surprise, when the imperfect condition of the grain is taken into consideration. The importations of wheat from France into the port of London, and from America into Liverpool and Clyde, have in some weeks been nearly equal to one half of the quantity required for the ordinary supply. It is well that it was so; for, without an extraordinary supply, a kind of dearth would probably have been felt, at a period when so little wheat of home growth was in condition for being manufactured. A remark here occurs, and it is not an irrelevant one. The policy of the British Government has always been to encourage the importation of grain, and to discourage the importation of every other article. Now, as the culture of grain is the staple trade of Britain, employing more people than are concerned in all our manufactures, it is truly wonderful that so extensive and necessary a trade should be discouraged at home, and encouraged abroad, whilst it is demonstrable, that the fields of Britain are perfectly capable of producing a far greater quantity of grain than is required for supplying the actual population. We by no means object to the licenses recently granted for importing grain from countries with whom we are engaged in bloody hostilities: on the contrary, we consider the people of Britain as under great obligations to the rulers of these countries for supplying their wants, and relieving their necessities, at a period when they were unable to supply and relieve themselves. But it is melancholy to reflect, that the people of Britain, of its southern part at least, are exposed, at particular periods, to the horrors of dearth or famine, by the obstinacy of their rulers. We do not mean to enter upon politics. No; these things are left to other people. We merely contend, that the inhabitants of this island are periodically exposed to dearth and famine, for no better reason, than that the rulers of the country entertain such an antipathy against innovation, as to oppose every attempt made to renovate the system of agriculture established in England when William the Conqueror swayed the sceptre of that kingdom. Had not this been the case, most assuredly the common-field system, the bane of improved agriculture, would long ago have been abolished. In like manner, the antient tithe system would have been changed, and placed upon a footing not adverse to agriculture, had our rulers considered, that to provide a full supply of the necessaries of life, was a duty incumbent upon them to the people whom they governed. But matters such as these, however beneficial they may be to the great body of every state, are seldom much attended to by those to whom they are delegated; and, in this way, the country at large suffers from a neglect of its best and truest interests. It is quite obvious, however, to eve-

ry person who reflects upon the subject, that the necessaries of life might be increased in a twofold degree, were the political obstacles to improved agriculture swept away and removed.

When upon this subject, the meritorious endeavours of a gentleman, whom we have often had occasion to mention, namely, Sir John Sinclair, Baronet, cannot pass unnoticed; and we trust that his account of the improved agriculture of Scotland, where no political or fiscal regulations remain to obstruct that art, will be of eminent advantage to our Southern brethren. Sir John, at this time, with that assiduity which strongly marks his character, is actively employed in collecting materials for a treatise upon Scottish husbandry, in order that the causes which enable northern farmers to pay more rent (Sir John says double rent) than done by their English brethren, in a better climate, and with the assistance of better markets, may be sufficiently understood. The inquiry is both curious and interesting; and, whilst much light must thereby be thrown upon the system of husbandry adopted in Scotland, it must appear that the want of regulations, similar to those enacted by the Scotish legislature, in the seventeenth century, is in a great measure the cause why English husbandry has retrograded, at least why it has remained stationary and unimproved. These matters will no doubt be amply elucidated by Sir John in the treatise which now occupies his attention. Under this impression, we shall only add, that, without such an illustration, the brightest description of Scottish husbandry will be of little avail to the people of England, seeing that the laws and customs of the country in fact restrain the occupiers, and, in some cases, even the owners of land, from exercising their judgement in the management thereof, or introducing practices contrary to those already established. These things are well known to Sir John Sinclair; therefore, it is highly probable he will first attempt to explain to English proprietors the system adopted by their Scottish brethren, whereby the value of land has been so prodigiously augmented. He will then very likely argue, that, as the Scottish system has produced such immense advantages to the proprietors of land in that country, the same system, or something like it, should be adopted in England, otherwise that the full value of property cannot be obtained by the owners from those by whom it is occupied. In this way seed may be sown, which cannot fail, at a future period, to produce an ample crop. The soil to be cultivated, perhaps, is not the most favourable one, being bound up by prejudice, and hardened by custom and usage; but an opening, once made, may, in process of time, be increased so widely, as to allow the removal of these obstructions. It was long before the benefits of the Scottish legislative enactments were perceived, and longer before these benefits were fully enjoyed; though to them, and to the liberal system of connexion betwixt proprietors and tenants, must the improved system of Scotish husbandry be entirely attributed.

Thinking it may be of some advantage to the inquiry undertaken by Sir John Sinclair, we insert the letter and queries which he lately circulated amongst his numerous agricultural friends. Probably

some of the answers to these queries will appear in our next Number Sir John having kindly promised to favour us in that manner.

" Sir—Several of my most respectable friends in the agricultural line, and Sir Joseph Banks in particular, have strongly inculcated the idea, that it is a duty incumbent on a Scotch President of an English Board, to draw up a Treatise on the System of Husbandry adopted in Scotland, by means of which, the farmers of that country are enabled, in extensive tracts, to pay double the rent for the land they cultivate, compared to land of a similar quality and description in England; and in his communication to me upon that subject, Sir Joseph adds, " That agriculture has derived, is deriving, and will derive, more benefit from Scotch industry and skill, than has been accumulated, since the days when Adam first wielded a spade. "

" When thus called upon, in a manner so flattering to the agricultural skill and industry of my countrymen, it is impossible for me not to obey the summons; more especially, as I am deeply impressed with the idea, that the introduction of the simple, economical, and judicious system of husbandry adopted in Scotland, would double the value of many districts in England, and would render the British empire independent of other countries, for food, and for a variety of other most essential articles.

" I have to request, therefore, that you will have the goodness to favour me with your assistance, in carrying on so useful an undertaking, and, for that purpose, that you would be pleased to transmit to me, as speedily as the circumstances of the case will admit of it, (the sooner the more desirable), full Answers to the subjoined Queries. As soon as the Treatise which I propose to draw up is printed, I shall have the pleasure of transmitting a copy of it to you, with many thanks *for your friendly and public spirited assistance*, in the prosecution of so important an inquiry. I remain, Sir, your very obedient servant,

Charlotte Square, Edinburgh, 24th October, 1809. John Sinclair. "

QUERIES alluded to in the foregoing Letter.

" 1. What may be the size of the farm you occupy, in Scotch or English acres?—2. What may be the nature and quality of the soil, and subsoil?—3. How near is the farm situated to any town or village; to any navigable river; or to the sea?—4. What may be the number of fields into which it is divided; or the average size of each?—5. What the rotation of crops; the average produce of each crop, and the average value at the present prices?—6. What the number of farm servants, married and unmarried; and the wages and other emoluments they receive?—7. What the average number of persons occasionally employed in other operations about the farm?—8. What the number of work-horses, and the expense of maintaining them?—9. What the number of other stock kept on the farm?—10. What the number of ploughs and carts; and whether any waggons are used on it?—11. Is there a thrashing-mill; and is it wrought by horses, wind, or water?—Are there fanners; and how are they wrought?—12. What is the rent of the land per Scotch or English acre?—13. Is the farmer liable to any additional burden, for land-tax, assessment for the poor, stipend to the minister, or salary to

schoolmaster; and to what amount?—14. What do you consider to be the best sizes for arable farms, in different districts, according to the capitals of which different farmers may be possessed; and why do you think such sizes preferable?—15. What sums, on an average, may it require to stock such farms; and what may be the average expense of the different articles?—16. What may be the expense of cultivation per acre?—*N. B.* If any circumstance should render it difficult to answer all these queries, have the goodness to communicate any information in your power, as speedily as possible, regarding the most material. The following particulars, also, are of great importance to elucidate: 1. The proper depth of ploughing both strong and light soils, for the different crops, and for a naked fallow: 2. How far the drill system ought to be adopted, both for green and grass crops: and, 3. The best mode of using lime, and dung, and composts."

As mentioned in our last, inquiries have been made by the gentlemen of the tax-office, respecting the bearings and consequences of the property-tax to the tenantry of Scotland; and a number of replies have been made from different counties to the queries circulated from the tax-office. We have not a copy of the queries by us, otherwise would have inserted them. In general, it may be stated, that they were not far amiss, and seemed to be drawn by a person who had a tolerable notion of the business to be investigated. That the tax, in the way it is levied, is an unequal one, few people are disposed to contradict; therefore, that relief of some kind, though very likely not to the extent claimed, will be obtained at the next sitting of Parliament, we have not the slightest doubt. Even those who contend that the great body of farmers enjoy income equal to one half of rent, admit that the rule of assessment adopted must be hostile to the interest of individuals who have met with losses, or who are so particularly circumstanced as to be unable to reap the full advantages that may be derived from farms under their occupation. A court of Appeal, or as it is called in one of the answers to the tax office, a court of Controul upon the acting commissioners, to hear and determine complaints from those who consider themselves aggrieved, seems therefore a necessary appendage to the system under which the property-tax is administered. Were such a court established in every county, and the third of rent assumed as the extent of income, as proposed in April last by the Scotch members of Parliament to the Chancellor of the Exchequer, the farming interest, it is believed, would be quite satisfied. None of the profession, so far as we know, have the slightest objection to pay one tenth of income, *actually enjoyed*, towards the support of Government; though nearly the whole contend that, to rate them according to an assumed criterion, which, in nineteen cases out of twenty, is fallacious and delusive, without giving them liberty of appealing against the assessment which follows, is not treating them in the same way as is done to other members of the community. Upon this point there can be little dispute; indeed, if a fixed rate is retained, which probably will be

the case, the farmer cannot be relieved unless courts of appeal are established. To suppose that the income of individual farmers tallies in every case exactly with their rents, is nearly as ridiculous as to suppose, in the event of the Legislature putting a tax upon *common sense*, that the same was to be levied upon farmers in direct proportion with the rent covenanted to be paid by them to their landlords.

As much imperfect Ruta Baga seed was some years ago palmed upon the public, to the great loss and detriment of those who purchased it, we with pleasure intimate, that a considerable quantity of that seed was this year saved in the highest perfection, by John Gibb, gardener at Linton, East-Lothian, from plants reared by that eminent agriculturist, George Rennie, Esq. of Fantassie; who, for many years past, has been particularly careful of breeding from the best roots, and constantly displayed a vigilant attention to preserve them from all communication with other plants. Notice will afterwards be given of the price, and the name of the person or persons in Edinburgh by whom the seed will be sold, for the information of agriculturists at a distance. We shall be happy to make similar intimations in next Number, with regard to the seed of common turnips, as many complaints reached us last year respecting the quality of the seed generally used.

A case will be reported in next Number, interesting to the public, and of considerable importance to the farming interest of this country. In substance it may be here stated, that twelve men, belonging to a regiment of Militia, marching to other quarters, were billeted on a respectable farmer; and that those men, refusing to take a loft for lodging room, found their way into the farmer's house, headed by two of their officers, and took possession of the rooms, leaving one, however, for the use of the farmer and his wife. The farmer brought an action before the Judge Ordinary of the bounds, and finally prevailed; damages, and the whole expenses, being decerned against the officers.

We notice, with much pleasure, that the cause of that worthy man, Mr Meikle, the inventor of the Thrashing Machine *presently* in general use, now stands a fair chance of being taken up by the public in a suitable manner. Mr Meikle has arrived at the advanced period of 91 years of age, without receiving that reward justly due to his merits as an excellent civil engineer; and more particularly due to him, on account of the Thrashing Machine, by which the public in general, and the landed interest in particular, have been so highly benefited. We know well that doubts have often been expressed by half-informed people, whether the Thrashing Machine was invented by Mr Meikle; though knowing, as we do, the history of the invention from the beginning, we are almost sure that no man, uninfluenced by prejudice, after investigating the facts and circumstances appertaining to the invention, can give a verdict hostile to the interest of that gentleman. The cause of this venerable and truly good man is now espoused by Sir John Sinclair, Bart., who, fortunately for the

country, has rarely failed in any measure taken under his protection, and will soon be submitted to the consideration of the public in a regular shape. In the mean time, the CONDUCTOR of this work acknowledges receipt of a letter, from a true friend to agriculture, which contains the following paragraph. 'I am happy to learn, that the case of Mr Meikle, inventor of the Thrashing Machine, has at last been fairly taken under consideration; and you will oblige me much, by paying the enclosed Five Guineas to the fund to be appropriated for rewarding Mr Meikle's eminent services.' We have only to add, that, when the plan for rewarding Mr Meikle is maturated, and ready to be acted upon, the same will, without loss of time, be laid before the public, from whom an ample support is reasonably expected.

SCOTLAND.

Kirkcudbrightshire Quarterly Report.

THE harvest was concluded in a superior manner to what was expected, notwithstanding the lateness of the season. In some places, the crop, in the beginning of harvest, was stacked before it was properly winded, and suffered considerably on that account; but, in other respects, the harvest has been good. The bulk exceeds what was expected early in the season; and oats that have been made into meal, bled well. Potatoes are a very irregular crop, and will be below average. Never have we experienced a better wheat seed time; and never, in the remembrance of the inhabitants of the present day, has there been so much sown in this district; but prejudice is quickly giving way to improvements; and it is hoped, from the exertion of many spirited gentlemen who have formed themselves into a society for the encouragement of agriculture, that this county will soon feel the beneficial effects of improved turnip husbandry, for which it is so eminently calculated. The cattle markets are continuing pretty high; but little or no grain has as yet been sold. For a few days past, a severe frost has prevailed; and, during last night, the hills have been covered with snow.——*16th November.*

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Dumfris-shire November*, 1809.

WITH a view to break the uniformity of the reports, which you receive and publish, relative to rural affairs, and to solicit from your numerous and respectable correspondents a more precise and variegated arrangement, I beg leave to send you the following letter; and, I am, Sir, your obedient Servant,—PASTOR.

'The seasons, in the course of the year 1809, have been remarkably varied. A severe winter, followed by a dry cold spring, and the severity of storm, and even snow, desolating the first days of June, appeared exceedingly portentous! The farmer wished for warm weather and refreshing showers. His wishes were, so far, gratified: The months of June and July were fine and warm; but little or no rain falling, a powerful drought succeeded. When rain fell at last, in August, it continued to descend in showers, daily, for a month. The first part of harvest, was productive of damage and apprehen-

ion; but the latter part effectually saved the remaining crops; and he re-commencement of winter has been most favourable to the la-ours and hopes of the farmer. The *produce* is very unequal in-eed. In deep and rich lands the crops were luxuriant; in gravel nd sand, and in all thin poor soils, they were exceedingly poor and ght. Early corns in rich lands, not being laid by the rains of ugust, until they were well advanced in ripeness, proved rich and usty, and are yielding amply in the barn. Some barley began to hiten in July, before the rains fell, and the grain proves under size. old oats, in soils of a moderate quality, not too rich for them, were xcellent. The farmer has felt how important it is for him to select eed corresponding to the soil, and to sow early corns only in good and, where it is unsafe to sow cold seed oats. He has also found ow interesting it must be for him, to lay on manure according to he state of the soil, varying the quantity greatly, even in the same ield. Meadow hay was a fortnight later than usual, and is at least ne fourth lighter, in the stack. Oats turn out something below a ull average crop. Wheat has proved most unequal in the sheaf: It rew well, in general; but some fields were totally lost by the blight, hile others not far distant were perfectly safe. Potatoes are consi-erably under the produce of last year, when the crop was indeed ncommonly abundant. The seed of turnips vegetated in July; but he young plants were overpowered by the drought and the fly; and hen the rains fell, at last, in August, they continued so long as o impede the dressing of the soil: of course, this crop is greatly elow par. The pastures became pale and even brown, by the latter nd of July, but they revived under the rains, and continued rich and ine. *Observations* led to remark, in the fields of sown hay, that most of the plants of ryegrass (Lolium perenne) failed; and that an uncommonly large proportion of goose grass appeared. In the gar-den, the whole crop of black currants was blasted; but to make a-mends, the season which was so unpropitious to the Ribes nigrum, encouraged, in the woods and uplands, an immense crop of blaeberry, (Vaccinium Myrtillus). On the meadows the best and earliest plant, viz. (Poa trivialis) or common poa, failed entirely; while a very large proportion of Lotus corniculatus, or birds-foot trefoil, appeared, loaded with gold-coloured blossoms, and rich and succulent stems and leaves. In the corn fields, increasing quantities of the rough corn poppy appeared, with its crimson flowers, and large dark seeds, numerous in the capsule and rich in taste, when broken, and in meal. The season has also planted, in the corn fields, a greater than ordi-nary proportion of the rank and noxious but showy weed Clerysan-themum, in both its varieties—the great white ox-eye, and also the common yellow corn marigold.

'Markets of grain and meal rose considerably, and are now sta-tionary at 3s. 4d. per stone of oatmeal; 13s. per bushel of wheat; 1s. 8d. per cwt. of potatoes; 1s. per stone of sown grass hay; 10s. per stone of coarse wool of black faced sheep; and 31s. 6d. per stone of Cheviot wool. The season, which has been productive of such u common effects in the fields, gardens and meadows, has also

marked for an unusual extension of the stitch fever, Pneumonia; which has proved fatal to many persons in the decline of life.'

Letter from Ayrshire, Nov. 21.

'THE rainy season continued till towards the middle of September; but, as it was latterly either accompanied with, or succeeded by good breezes of wind, the rain did little injury, either to the standing corn, or to what had been cut down. From that period to the present time, we have had a course of the best weather ever seen at this, or almost any season of the year. Except partial showers, we have had no rain for nearly two months. This caused the harvest work to proceed rapidly and pleasantly; and it is very rare indeed that the crop is got collected into the barn-yard, in this county, in such a good condition. Except in some few cases, where people may have hurried it in too soon, I don't suppose there can be a spoiled sheaf in the whole county. It is pleasant, as well as surprizing, to think what a change a few weeks can produce. In the former part of the season, ruin stared the farmer in the face. A long tract of rainy weather drenched the fields, softened and lodged the crops, seemingly past redemption; and little farming work could be done, or done to purpose. All these things are now as if they had never been; and the face of the county is entirely changed. This will be a lesson to teach farmers confidence in that promise, that 'summer and winter, seed-time and harvest, will continue while sun and moon endure.' It is generally believed, that oats and peas and beans are fully an average crop. Wheat (of which a very considerable quantity is now sown), and barley, though both tolerably good, are not reckoned to amount to an average. All the different species are considered as being of good quality; and, in so far as they have been yet tried, yield well, both from the sheaf and in the mill. The wheat, indeed, in some cases, is not so plump and full as in other years, and is darker in the colour; but I have not heard that there is any thing of smut or mildew worth the mentioning. The whole is sound, though somewhat smaller in the grain than usual; and that, perhaps, is only in a few cases. The greatest deficiency is in the article of potatoes: in many places there is not much more than half a crop. The fine dry weather has greatly recovered the turnips; and especially the mildness of it, resembling summer weather, has caused them to swell beyond expectation. The same cause has rendered the fallows in fully as good a state as we have any reason to look for in this moist climate; so that the wheat sowing has been carried on under very favourable circumstances; and a greater breadth of land has been sown this year than usual. As we have no proper grain market yet in this county, prices cannot be accurately ascertained; and no doubt much speculation is afloat. Wheat is from 45s. to 50s. the boll, 4 bushels; barley, 8 bushels, the same; good common oats 32s. the 8 bushels; and potatoe-oats always give 3s. or 4s. more. Meal, at last market-day in Ayr, was 1s. 9d. the peck; and potatoes, from the field, are 10s. and 10s. 6d. the boll. Cheese, of which vast quantities are made in the county, and of a superior

uality, is selling from 12s. to 14s. the stone of 24 lib.; and but-
:r from a guinea to 25s. do. Butcher meat is at such a price
s to indemnify the grazier; beef is from 10s. to 13s. 4d. the
:one of 24 lib. The average of mutton may be about 10s.
'here has of late been a great spurt in the cattle market: the de-
ıand has been very brisk; and it is said the prices have been as
ood as at any time for seven years past. In short, the farmers in
ıis county have this year no ground of complaint. Every thing
as ultimately turned out favourable for them: they have had a
ɔlerably good produce, and a ready demand for it.

'While such a dark cloud envelops our political horizon, it is
leasant to reflect upon this increasing demand for agricultural pro-
ıuce, because it is the best symptom of the increasing trade and po-
ɔulation of the country; and this, again, if any thing, is our best
ecurity against the terrible calamities with which we are threatened.
n this view, I cannot help mentioning with pride the increasing
mprovement of Ayrshire. If it meet with no obstacle to retard
ts progress, it will, in a short time, become one of the finest, as
t is one of the most beautiful, counties in Britain. I am happy
o inform you that you will, in a short time, have a full account of
t, as there is a gentleman just now making a complete agricultural
ırvey of it, for behoof, and under the patronage, of the Board of
Agriculture.'

Tweeddale Quarterly Report.

THE weather was unfriendly to harvest work, there being less or more rain every day during the month of September, consequently the grain crops were very critically situated. Through October the weather was good, and allowed grain to be carried to the yard in excellent condition. Oats are a bulky crop, though, as there is a large mixture of greens, the produce will not equal what might have been expected from a well ripened crop. Barley is well harvested, but will scarcely amount to an average crop. Indeed, the number of bolls cannot be expected this year from the same bulk, seeing great part of the crop run much to straw; whilst, in other cases, a considerable proportion was not perfectly ripened. Turnips have improved remarkably of late; and, though not near an average crop, will be much weightier than was expected. The early sown fields, which had the most promising appearance, have suffered by shooting, being injured by the very cause which improved the late and bad fields; yet, as two or three days of keen frost ensued last week, the shooting may be considered as effectually checked. Live stock of every description is in good condition and in great demand, having experienced a rise of at least 15*l.* per cent. above last year's prices. Potatoes are of superior quality, and have yielded abundantly; yet, in this inland county, little money is brought to the farmer by this article. The same observation may be made with regard to sown grass, there being no permanent market for it when used as hay. This county seems now to have got to the acme of agricultural improvement, the four-course shift being now the order

of the day; and, to follow it, the farmer is bound neck and heel, with severe penalties in the event of his departure therefrom. However beneficial that course may be in certain cases, where soil and situation combine to render it practicable and profitable, it is highly preposterous to prescribe it to the farmers of a county, sixteen out of twenty of whom are unable to follow such management; as may be evident to every one whose mind is not steeled against conviction, or unacquainted with the local circumstances of the district. But, if conveyancers will insist upon such a course, they ought to begin with changing the position of the buildings, placing dwellinghouses, byres and stables on the top of a hill, and the barn at the bottom, so as it may be practicable to get the dung from the former, and the crop to the latter. If these gentlemen can bring the climate and fertility of China (where it is said stubble is sufficient manure for the soil) to Tweeddale, perhaps such management might improve this county to the hill-top; though, hitherto, any benefit from restrictive clauses has gone into the pockets of the lawyers, without being of any advantage to the proprietors.——25. *Nov.*

Banffshire Quarterly Report.

The rains which broke out about the date of last report, continued for several weeks with little intermission; and, as the greater part of the hay remained in the field, very considerable damage was sustained before it was got into the stack. The cleaning of turnips, from the same cause, was long retarded; but some drier weather being experienced towards the end of August, this operation was at last got pretty well performed. Notwithstanding the wetness of the weather for so long a period, and the great want of sun, the filling and ripening processes went on beyond all expectation. This can only be accounted for by the excessive heat which prevailed for the most part. In short, the crop, which, at one time, had the appearance of being the latest in remembrance, became ready for cutting down about the middle of September.

The stack-yards far exceed their usual bulk; and oats, which are the principal article here, may be rated at a full average, although, in many instances, they will yield a great quantity of light grain. Bear is very deficient in quantity and quality; and, in many of the upper districts of the county, it is unfit for seed or malt. What wheat there is, turns out but poorly; and peas, which are every year less and less sown, are little short of a total failure. Little grain is yet sold, and that only at conditional prices.

The cattle trade ended with high prices; and it may be fairly stated that the grazier has been better paid in this than in many years past. Wintering stock has become very scarce,—two-year old stots in particular; but, as there were a good many parcels of West Highland runts brought over, this deficiency has in some measure been supplied. These, in addition to the fine three and four-year old stots usually found in the lower part of Banffshire, will be worthy of the attention of dealers who may visit this district in the spring months. The weather has continued favourable for the operations of the field, with the exception of two or three days frost

iow about the 18th instant, which occasioned the housing of
It has again settled; and ploughing goes on, although ra-
vet in many situations. The price of labour keeps station-
ploughmen from 7*l.* to 8 guineas in the half year, with main-
e.——28. *Nov.*

Letter from Glasgow, 28th November.

HE progress of harvest work was much retarded by the conti-
falls of rain during the months of August and September; and,
time, the prospect of rural affairs was indeed very gloomy;
bout the beginning of October, the weather changed for the
; and, from that to the present time, it has been invariably so
as to enable the farmers to secure the whole of their crops in
st condition. The wheat crop in this neighbourhood has un-
edly come short of an average; and this remark, we believe,
e applicable to the quality than the quantity. Scarcely do we
fine sample brought to market. Oats, on the contrary, are
an average crop, both with respect to quantity and quality.
description will also apply to potatoes. The winter wheats
been all sown under the most favourable circumstances; and
ger breadth of ground is occupied by that grain than we ever
nber in any past year. The braird too, at present, presents
eedingly fine appearance.

he importations from America have fallen far short of our ex-
ions, having received from thence, during the last quarter,
12,000 quarters wheat, and 10,200 barrels flour. And though
ve had considerable arrivals from the North and East of Scot-
and England, still the stock of old wheat is comparatively
. Nor, during the present state of things, can we look for any
es from the States. On all these accounts, it is our opinion
he present high prices will for some time be maintained, un-
ne quantity brought by the fall ships from Canada be much
r than is expected. Our views with regard to Ireland have
fully realized. The importations thence, since our last, have a-
ted to 60,000 bolls oats, and 9000 do. oatmeal; and as the
of oats there, as in other parts, has turned out well, we look
rd, with confidence, to an abundant supply of this grain. In
rospect, it is not unlikely that the price may by and by experi-
ome diminution.

State of Glasgow Markets, 28th November.

ric Wheat	55s. to 60s.	p. boll of Linlithgowshire measure.
gn Red do.	53s. — 56s.	
Scotch do.	37s. — 45s.	
English do.	54s. — 56s.	
ican do.	56s. — 58s.	do. of 240 lib.
do.	48s. — 50s.	
Mealing Oats	26s. — 28s.	do. of 264 lib.
Inferior do.	24s. — 26s.	
h Potato do.	27s. — 28s.	
Small do.	24s. — 25s.	do. Renfrewshire measure.
sh Potato do.	28s. — 30s.	do. Stirlingshire do.

English Barley	45s. — 46s.	p. boll, Stirlingshire measure.
Scotch Do.	33s. — 36s.	
English Beans	33s. — 35s.	do. do. do.
Scotch do.	30s. — 32s.	
Scotch Grey Peas	29s. — 30s.	
Scotch Oatmeal	28s. — 29s.	do. of 140 lib.
Irish do.	22s. — 24s.	
Fine Flour	88s. — 90s.	p. sack of 280 lib.

Berwickshire Quarterly Report.

'Fled is the blasted verdure of the fields;
And, shrunk into their beds, the flowery race
Their sunny robes resign.'

From the date of last report (Aug. 2.), to the 11th of September, the weather proved hostile to field operations of every description, and much against the health and maturing of the corn crops. By the middle of August, all the luxuriant fields were lodged, particularly those carrying oats, which were so beat down by the continued rains, that they at last assumed an appearance as if they had been swept over by a flood. Reaping commenced in a partial way about the end of August; but did not become general over the Merse district till the 11th of September, owing to the rain and fogs which prevailed. The succeeding week was fine steady weather; but the remainder of the month was rather unsettled, and occasioned a good deal of extra labour and attention in the business of ingathering. The fields in the low district were, however, mostly cleared by the 24th of October, and, except the sprouting which took place amongst a few early cut fields, the crop in general was secured in good order. Wheat, so far as can be judged from the trials made, will not exceed two thirds of an average crop; the quality extremely various, spring wheats being universally small, and ill filled. Oats proved a weighty crop on all the soft loamy soils; on thin clays they were barely middling. Good oats yield about 8 stones Dutch weight per boll in meal; but a great deal fall considerably short of this weight. Barley is a good crop, both as to quantity and quality. Beans are also a good crop; but peas have failed so completely, that there are few cases where the grain will pay the expense of thrashing. The Lammermuir corn, which had not advanced beyond a green state at the period of the rains, got completely matured by the mild sunny weather in October, and was all carried, in very decent order, by the middle of November, being just a month later than last year. The crop, however, is the best that has been harvested in the hill district for many years past; so that, upon the whole, the grain crops in this county, with the exception of wheat and peas, may be reckoned rather above an average. Reapers' wages, *for the season*, were,—men, from 2s. 8d. to 2s. 10d.; and women, 2s. 6d. per day, with victuals. Turnips are a poor crop upon all the retentive bottomed moorish soils. Upon deep dry loams they are good, having made a considerable growth during the month of October. The best are letting at much the same price as last year, viz. 7*l.* per English

acre. Potatoes are an abundant crop; and young clovers look well; but were severely cut up on wet soils, by the carting of the corn crops. The season was extremely unfavourable for preparing the wheat fallows, few of which have attained a clean state. From the fine weather in October, they were however seeded in pretty good condition; but, from the failure of the crop these two seasons, the breadth of ground sown this year is not so great as usual.

Cattle have been much in demand, with a consequent advance in price. At Dunse fair, on the 17th current, they were fully 20 per cent. above the rates of last year. The number of sheep carried South this autumn was but trifling; notwithstanding which, draught ewes have sold about 12 per cent. higher than last season. Few dinmonts were shown at any of the autumn fairs, a great many having been taken off in the course of the summer, to supply the butcher market.——*Nov. 29th.*

Aberdeenshire Quarterly Report.

The harvest, which commenced unfavourably, turned out better than expected; and, with the exception of a few days in the beginning of October, of snow and stormy winds, whereby some exposed fields of wheat and oats were shaken and beat down, the weather, on the whole, was highly propitious. From the lateness of oats in general, it was not judged fit to hazard or defer the cutting too long; of course, a considerable proportion of them was cut before the grain came to full maturity; and from this cause a considerable part of the grain is light and defective. The crop was gathered, in excellent order, and the stack-yards are uncommonly bulky; and, though the grain yielded from the stack is not so much as usual, yet, on the whole, the quantity will be far above an average. Bear and barley were thin on the ground, and generally inferior, both in quantity and quality, to our usual crops. The same remark is applicable to wheat, (the culture of which is yearly extending); for though many fields of it were excellent, yet, where not fully ripened before the storm in the first of October, the grain is small, shrivelled, and of inferior value. Little grain has as yet been bought for exportation; therefore, prices are very fluctuating.

Turnip, where the seed was good, and the land dry, is in general a full average crop. Potatoes are inferior to last year. Pasture grass continued abundant and plentiful through the season; and the grass seeds sown last spring planted well, being full on the ground, and of promising appearance. Cattle and sheep maintain high prices, having rather advanced since harvest; but fat has not advanced in proportion with lean stock.——*Nov. 29.*

Wigtonshire Quarterly Report.

A fortunate change of weather took place about the 25th of September, and harvest then went on in a pleasant and successful manner. The crops pretty generally stood thin upon the ground, and owing to this the bulk is somewhat defective. On the other hand, this circumstance prevented lodging in an extensive degree; and, notwithstanding the utmost uninterrupted humidity of two entire months, the quality of grain is good. Potatoes are defective in quantity, and turnips are mostly somewhat too late.

The wheat crops having turned out favourably, the price being high, and season for sowing unusually suitable, more extensive trials in the cultivation of this most valuable of grains are now made and making, than is remembered ever before to have been attempted in this district. Should successs crown these endeavours, crop 1810 runs every chance to constitute something like an era in Galloway farming. The superior management required by the successful cultivation of wheat, and the superior profits thereby obtained, cannot fail to produce a happy influence upon rural affairs. Black cattle have been, and still are, very high priced; and live stock of this description are become rather scanty.

What the farmer has chiefly to complain of at present, are, the high price of labour, and the property tax. As to the former he can have very little hope of relief, and is in some measure consoled by the reflection, that it is an indication of national prosperity. There is reason to hope that the latter will shortly be modified.

The unbounded competition which has so long existed amongst farmers, has been the most principal cause of the extravagant advance of rents; and that species of ambition, which is called speculation in ordinary life, naturally urges on to extremes; whence disappointment and confusion as naturally result. Of this the annals of Wigtonshire agriculture afford a recent and conspicuous instance.

A certain memorable land roup, wide famed throughout Britain, has already produced these effects; and, by the severe lesson so given, judgment and caution seem returning to the profession; for rents are absolutely fallen to a very considerable extent; and the extravagant hopes, speeches and schemes of many deluded individuals, are likely to be reduced within the ancient and durable limits of discretion and sound practicability.——*November* 29.

Dumfries-shire Quarterly Report.

The harvest, upon the whole, was a good one in this county, though, in the month of August, it was something retarded by showers and damp weather. Wheat, indeed, where thin and partially broken down, had the fallen heads sprouted on the ground; but this is generally the consequence where wheat is a thin crop. It became so last season in most parts of this county; partly from the extreme frosts in December and January, when the late sown wheat was scarcely above the ground: and whether the imperfect seed from the mildewed crop of the preceding year may not also have tended to the failure in this year's crop, seems doubtful, and deserving the consideration of farmers. Too certain, however, it is, that this year's crop of wheat is a bad one, and much worse than might have been expected from the summer weather in this county; there having been little of any of those morning frosts and chilling fogs which are understood to occasion blight and mildew. The spring wheat, of the awned red kind, said to be from Lincolnshire, sown here last April, appears to be better filled than the winter wheat has generally been. If it gives a fair produce, it will probably increase the growth of wheat, and encroach upon the barley. This may have no bad effect while spirits are distilled from West India pro-

duce; but whether it will benefit the farmer, and of course the landlord, seems more doubtful. Oats and barley are both average crops; oats, more particularly, good in the upper parts of the county. Turnips have improved greatly in size; and are a good crop, where they had not failed early by the drought or fly; but such failure took place in at least one-third of the county. From the excelcent quality of turnips, owing to the fine autumn weather, they are this year good food for horses, and particularly useful with straw. In wet autumns and winters, the horse will not eat common turnip, but likes at all times the Swedish kind.

This has been a good year for the breeders of cattle and sheep; both from the advance of price and the numbers produced. It is however complained by the sheep-feeder, that none of the upland farms had their proper stock, or number of ewes, owing to the failure of the two former years; and it is believed, that the advantages of this season will be far short in making up the losses of these years. The present scarcity of meat at the shambles, and high price of animal food, is well accounted for by the loss of ewes in the two former years, and the short produce of those that lived. In each of these years, one-fourth of an average produce of sheep, supposed to be wanting, must affect, in a striking degree, the market, when that produce at maturity should come into it. Thus it was, that the extreme scarcity of the years 1799 and 1800 was not made up for four years thereafter, notwithstanding the good seasons that followed.

Cattle have increased in price since the spring, paying well the breeder, dealer, and grazier; but the present holder of stock, recently bought in, runs a risk of being ill paid. Such chances the farmer must run. Beef, at present, is from 7s. to 8s. the stone, avoirdupois; and mutton nearly the same.——*30th November.*

Ross-shire Quarterly Report.

Circumstances have been more favourable for farmers in the north of Scotland, this year, than for several years past. Live stock have uniformly sold well from spring up to the present day; and, from the scanty supply of good beasts at the late markets, it may be safely inferred that cattle are a scarce article. Besides the advantageous disposal of this staple article, corn crops have been secured in excellent condition. Harvest commenced generally about the 12th of September, and was mostly over in October; during that period the weather was occasionally soft and moist, threatening damage, but always cleared up before any took place; and rather seemed useful, as tending to keep alive a spirit of diligent activity, valuable at all times, but particularly so at that important period. Several fallow fields were sown with wheat in September, which now look remarkably well. The wheat seed was finished in October, in the finest order; and a continuation of the fresh weather till the 15th current has produced an ample braird. Principally owing to the thinness of several fields, the wheat of last crop is not expected to yield an average produce, nor are the finest samples accounted quite so good as the best of last year's; at the same time, there being

a greater uniformity in the quality, the aggregate will be better. Barley and oats are fair crops, and of good quality; the latter particularly so, and exceeding an average. Potatoes, good and abundant, were secured, before any frost came to injure them. Turnips, benefited by the softness of the weather in Autumn, are a weighty crop; and similar causes have forwarded the progress of stock, consuming them, in a corresponding degree. As to the improvements of the county, it may be announced, that the bridge of Conan is now completed; and that several lines of road, partly on the great line from north to south, and others for internal convenience, are in progress. There has been a rise of fully 30 *per cent.* on the rent of arable lands within the last two years; which may be principally attributed to strangers coming from the more opulent districts in the south. Very few obtain beyond a 19 or 21 years' lease. The advantages of entry are by no means so favourable as in the south; but these are expected to be overbalanced by the low rate of labour and rents. Every one connected with agriculture must rejoice to see it thrive; and none will be more sincerely happy, that the expectations of enterprising men do not meet with disappointment, than the writer of this report.——30*th November.*

Letter from Langholm, 1st Dec.

'During the last quarter we have experienced a great proportion of mild weather. The early part of harvest was moist; but some fine days intervening during the course, and toward the latter end of autumn, harvest work was finished in a better style than what the beginning of the season had promised. The crops of grain have, in general, turned out more abundant, and of a better quality, than what was once expected, and may, in this district, be estimated as a fair average. Hay, from natural grown grass, was ill got, in most cases, therefore inferior in quality. Potatoes yielded a plentiful return, and are of excellent quality. Turnips, from the singular mildness of the season, improved greatly during the months of September and October; and many fields at present exhibit the appearance of a decent crop, which were considered, at an earlier stage, as good for nothing.

'Black cattle have brought extravagantly high prices of late, and so have sheep; though the markets for lean stock, in Yorkshire, have been dull for some time past; owing, probably, to the great numbers of sheep carried southward this season, and the long prices demanded by the sellers. Ploughing, and other field work, preparatory to the green-crop husbandry of next season, is far advanced, and executed while the soil was in the most favourable condition.'

Letter from Falkirk, Dec. 2.

'It is a most pleasing and grateful task to be able to report the happy conclusion of a harvest, the commencement of which was gloomy and disheartening in the extreme, and, indeed, threatened the most extensive mischief. We had certainly reached the very verge of one of the greatest calamities that can well occur in a populous country, —a damaged crop. A very few days longer continuance of the moist, close, foggy weather, that prevailed in the early part of harvest, must

have been followed by the moſt diſmal conſequences. Happily, that Power, which manages events with unerring wiſdom and benevolent deſign, willed it otherwiſe; and the damage incurred has neither proved very general nor very conſiderable. It has been confined chiefly to ſome partial ſpringing of wheat, of no great conſequence. With the exception of wheat, from the circumſtances juſt mentioned, and from its having been, throughout the whole ſeaſon, thin on the ground, we have certainly obtained, in this diſtrict, a full average crop. Oats are probably above that ſtandard, yielding well on the barn floor, and plentifully at the mill. Potatoes are both abundant and excellent. There is alſo plenty of fodder, which has hitherto been almoſt entirely ſaved, from the long continued mild weather both allowing the cattle to continue out, and ſupplying them plentifully with food. There is, therefore, the comfortable proſpect of plenty in the land for man and beaſt. Notwithſtanding this plenty, however, which, it is hoped, may be alſo the caſe in other diſtricts, it would be highly unreaſonable to expect, that the produce of the land ſhould be obtained for any thing like what may be conceived to be old prices. If even theatric, and other amuſements, with ſuperfluous bagatelles of every deſcription, are not, now-a-days, to be got on former terms; to expect that the more ſubſtantial and indiſpenſable articles of firſt neceſſity ſhould be had at old prices, can only lead to diſappointment and diſcontent. Under exiſting circumſtances, prices muſt neceſſarily continue to advance comparatively; and the public ſhould lay their account with this unavoidable occurrence. What change, indeed, peace might bring about, is another queſtion; but, until that can be more certainly aſcertained, a progreſſive advance muſt be endured; and it can anſwer no good end, or uſeful purpoſe, to endeavour to keep this moſt probable occurrence out of ſight.'

Forfarſhire Quarterly Report.

The harveſt in this county began, on early farms, about the firſt week of September; and, for two weeks about that time, the weather was particularly unfavourable to the crops. The atmoſphere was quite cloſe, and rain fell in conſiderable quantities every day; in conſequence, the crops were lodged, and, in many ſituations, much ſprouted. The wheats alſo ſuffered from mildew, on light lands, as laſt year; and, had not clear, windy weather ſprung up, the proſpect of the country would have been truly alarming. From what has been thraſhed of the crop, little can be ſaid in its favour. Wheat is found to be fully worſe than laſt year,—the bread made from it of bad quality. Barley turns out ill from the bulk; and oats are very deficient in meal; from 11 to 14 pecks are common returns for a boll. Potatoes are a good crop on dry ſoils; and turnips have improved conſiderably.

Cattle markets have been riſing gradually this quarter, and are fully higher at this time than at any former period. Fat is very ſcarce, and high prices are expected for the feeding ſtock. Grain markets ſet off briſkly in the beginning; but are now dull, and prices reduced. Good wheat brings from 45s. to 50s.; but it is a ſcarce article. Barley 27s. to 30s.: Oats 25s. to 30s. per boll.

The wheat in this county, being moſtly ſown after fallow, was put into the ground in a favourable way, except on very wet ſoils; and the

ſoft weather has brought it as forward as is wiſhed before winter. The quantity ſown is fully as great as formerly, notwithſtanding of the failure for theſe two years. Field-labour is alſo well advanced. Land-rent riſes faſt. A good farm cannot be got much under 5l. per acre; and inferior ſoils are ſtill reckoned comparatively dearer.——*Dec.* 2.

East-Lothian Quarterly Report.

THOUGH the autumn quarter was unfriendly to rural buſineſs, yet, on the whole, the proceſſes of cutting, winning and gathering the crop, were ultimately better executed than could have been expected, conſidering the melancholy and diſtreſſing circumſtances under which harveſt-work was undertaken. At the commencement, exceſſive rains, followed by ſultry and foggy weather, were experienced for many days: hence, moſt of the winter wheats got into a ſprouted ſtate, even though they were not cut; and, generally ſpeaking, they are in worſe condition than known in any year, that of 1799 excepted. The ſpring-ſown wheats, however, almoſt entirely eſcaped any injury of that nature; though, from a want of ſunſhine when filling and ripening, they are light and unproductive. Taking the wheat crop as a whole, the deficiency will be greater as to quantity, and much more as to quality, than laſt year. From numerous trials made, there is reaſon to believe, that the average return of this county will not exceed ſix bolls, or twenty-four buſhels, per Scotch acre; and even that return will yield far leſs of the perfect article (flour) than was obtained laſt year; whilſt the quality of the flour will be vaſtly inferior, and, of courſe, of ſmaller benefit to the conſumer.

The other grains, peas excepted, are conſidered as fair crops. Perhaps oats may exceed an ordinary average; this grain being conſtitutionally diſpoſed to reſiſt exceſſive moiſture better than wheat and barley. A very ſmall quantity of any grain, however, is in good condition, particularly wheat, which probably will not get into a firm or grindable ſtate till the ſpring ſeaſon. On this account, a regular demand in the market is not to be expected for ſeveral months. Indeed, wholeſale purchaſers have ſcarcely yet appeared for any ſort of grain; therefore, nearly the whole of what has been thraſhed is preſented in the public market, where ſales are irregular, and prices conſtantly fluctuating.

Turnips and other eſculents are greatly below common averages, though, perhaps, their value per acre is not thereby much diminiſhed. The growers of them have a decided ſuperiority over the growers of grain in adverſe years; becauſe none of the former articles will bear the expenſe of importation from other countries; conſequently, a ſcarce year ſerves to enhance their value conſiderably; whereas, with regard to grain, its market value is only regulated, to a certain extent, by the goodneſs or badneſs of the home crop, as ſupplies may eaſily be obtained from other countries. The grower of grain, therefore, ſuffers in every bad year, having then only a ſmall quantity to ſell; and makes moſt money in a favourable ſeaſon, when he had a greater quantity to diſpoſe of; whilſt, at the ſame time, leſs temptation prevails to make foreign importations.

In a pamphlet lately publiſhed on the Property-tax, by a gentleman in Edinburgh, it is ſtated, in ſupport of the argument maintained, that

'*the wages of farm-servants, and consequently expenses, are on the decline;*' and a reference is made to the report from this county in the Magazine for June last. Upon examining that report, it appears that the words used are the following ones. '*Labour is not advancing in value, as was evident at the Dunbar hiring market on Tuesday last, where many servants were not engaged.*' Any observations on the above are unnecessary: these may be left to the reader.——*Dec.* 4.

ENGLAND.

Extract of a Letter from a Scotch Farmer to his Friend near Edinburgh, giving an account of the state of Husbandry in one of the districts of England.

'The agricultural implements in this country, are generally the most absurd nature could suggest. The neighbouring farmers are much astonished at seeing a plough going without a wheel to keep it out of the ground; and still more so, because it is drawn by two horses.—The farmers generally plough with four horses, or six oxen, though the furrow is not above two inches by five.

'Agriculture here, in all its branches, is about a century behind what it is in Scotland. The people have much of a natural prejudice against improvement; though I must own the tithing dishearteus them very much, as a tenth of the crop, or one-fifth of the farm, must be given to the tythe holder, &c. &c.—The country is mostly hill and dale;—all ploughable, though two thirds of it is pasture. The country is very fertile. Fruit-trees in abundance. Wheat is the principal crop. We live here a great deal more extravagantly than in Scotland. Drinking cyder in place of ale, &c. &c.'

Letter from a Suffolk Farmer, October 8.

'The harvest with us has been long and tedious: such an abundance of rain, and so little sun, that the earth was always cold. Our wheats, I think, are got in worse than any other grain; the article being so essential to the comfort of the community at large, the anxiety of those who grew it, was too great, at the beginning of harvest, to let it stand a proper time before they *barned* it; therefore much was carried in a cold or damp state. This, I flatter myself, is one reason of the late high rise of price at Mark-Lane; for the millers with us cannot grind the new wheats without a mixture of old. The samples appear much more handsome than last year; but I think the quantity will prove short one fourth of that year's produce; and, if the harvest in the North should fail, and the ports of America continue shut, we shall be much distressed. Flour, now, is 4s. 11d. *per* stone; and great discontent is visible among the lower orders with us; they never yet having been compelled to eat much barley or oat bread. Barley, upon the light lands, is a very poor crop; yet upon the better soils, I think will do well, though very deficient of quantity from last year. Oats, as well as beans and peas, will certainly be a full crop. The Scotchmen are asking such enormous prices for the cattle they bring up, that many of my neighbours, who are large graziers, are determined to set their faces against it, and will purchase none; for what turnips we have

very well be fed by the quantity of sheep and lambs we now hold. The wet has much affected that root, by giving it too much top, and too little bottom; the latter of which is greatly hurt by the maggot; and, if a sharp winter should succeed this wet summer, they never can stand the frost. All our second crops of clover, or nearly so, are spoiled by the wet weather. Such is our situation here; and, if you were to make inquiry, I have no doubt but you would find it nearly the same in most parts of the county.'

Extract of another Letter from the same Gentleman, Nov. 3.

'I have but little to add to my last communication respecting agricultural matters in this part of the country, except that I am sorry to learn that red clover seed fails throughout the whole county, and will not turn out above half a crop; and, from the dearness of that article last spring, it is probable there is but little old stock left. I was favoured with the perusal of a letter yesterday, from Hamburgh, complaining of a similar deficiency throughout Holland. The price, of course, will be enormously dear. Since the potato harvest commenced, they are found to rise very deficient in size from what was expected. One of my neighbours, who had calculated on 150 sacks *p.* English acre, has got less than 100. We have had, for this last month, very dry weather, which has wonderfully improved the turnip. The top has ceased to run; and the apple is of very good size. Wheat-planting commenced very early; and, upon the light, mixed soils, never planted better, nor appeared more luxuriantly; but, on the stronger soils, where it was planted later, there will be a deficiency: for, from the coarseness and bad working of the land from the dry weather, the grain has never vegetated; and many lands of this description, as soon as rain shall come, must be planted over again. Drank or buck-wheat with us was never better harvested; and has every appearance of a full crop.

I send you a statement of our prices, which will enable you to draw a comparison between them and those in the North.—Prices at Ipswich market last Saturday.—Wheat, 110s. *p.* qr.—Barley, 50s.—Beans, 51s.—Oats, 26s.—White Peas, 84s.—Grey do. 52s.—Oil cakes, 16*l.* to 16*l.* 15s. *p.* 1000.—Good Pork and Mutton, 8d., 8½d., and 9d. *p.* lb.

Norfolk Chronicle Extract.

A more tedious season for harvesting the crop has not been remembered for many years. Even was a period like the present one; and less fine weather for harvest work was never known, than in the months of August and September last. The first part of the wheat crop was there got in unfavourably; but the middle and latter parts met with a little better fate, being got in tolerably dry. The produce appears to be short of that of the last year by full one-fourth. The weight of quality is considered to be better. What has been brought to market is dingy and raw, and not fit to be manufactured, without the assistance of old, dry grain. With regard to the barley crop, the produce, upon a general scale, was never more abundant; but the harvest for that, as well as for the wheat crop, was very unfavourable. It is calculated that two-thirds were imperfectly got. Indeed,

grain comes to market in so bad a state, that, in many instances, the inferior sorts cannot be sold; being wet, mouldy, and heated.—The Pea crop was of small breadth;—still, it is considered a good one in point of produce, and better got than any other part of the crop in this county. Oats are a short crop; chiefly owing to the inundated state of the Fens at seed-time. Turnips vary this year. On good deep soils they are a fine crop; but, on high, *corky* soils, they are quite the reverse. From the almost general use of thrashing machines, corn markets, since the conclusion of harvest, have been liberally supplied with grain. Barley began at a high figure; but has been gradually declining in price for these three last weeks. At Lynn (the great corn market of this county), barley sold lately as high as 52s. *p.* qr.; though, at the present time, the finest runs are not worth more than 44s. Scotch cattle are selling here as high as 7s. 6d. *p.* stone.—Stock sheep; 20 *p. cent.* higher than last year. Wool, of fine quality, is selling for 90s. *p.* todd of 28 lib. Wheat-sowing is nearly finished.—The early planted fields never looked better than at this period.—*Nov.* 16.

Sussex Quarterly Report.

The harvest, owing to the long continuance of wet weather, was of unusual duration. The wheat crop, however, with those endowed with that necessary quality, patience, was very little injured, and much less grown than could possibly have been expected; but proves by no means equal to that of last year in quantity. The samples are good, where not injured by the smut, which is much complained of. In the opinion of one of our largest millers, which, perhaps, is to be received with caution, though at the same time a large farmer, there is a deficiency of at least a fifth; and the quantity that has come to market this year in comparison with last, justifies this opinion. Oats are good; Peas remarkably so; and, as to Barley, there is none grown hereabouts, but upon the Downs and light soils: the crop of this grain is a full average. The soil in this neighbourhood is well adapted for Beans: but they are seldom sown, and then broadcasted; and, as they receive no subsequent attention, of course do considerable injury to the lands. The general routine is fallow, wheat, oats, seeds; in some few instances fallow, wheat, peas, wheat, oats, seeds. The price of land is rising. A few years ago ten shillings an acre was considered a good rent; but now, the same lands let for double that sum. I am speaking of the arable land. Grass grounds near towns let very high; but more from accommodation than from intrinsic goodness. There is one circumstance which, however beneficial to landlords, must always operate as a great drawback to high rents, viz. that in the weald of Sussex, the enclosures are small, and generally surrounded with wide hedge-rows, wherein there is much oak timber, which intercepts the benefit of the sun, and robs the head-lands to a considerable extent. Though more activity and skill is displayed by the farmers in general, within these few years, yet they are still very far behind hand; there not being three ploughs with a pair of horses, nor a thrashing machine within many

miles of this place. The long continuance of fine weather, which began with October, has permitted the wheat-sowing to be effected at an earlier period, and in a better and more expeditious manner than has been remembered for many years: the young wheats are come up well. The same cause has been very beneficial to the feeding stock on grass grounds, and tended to keep up the price of lean stock, which is dearer than last year by perhaps 20 *per cent.* Hogs scarce; and, of course, high-priced. Being so near London, our markets are governed by those of the metropolis;—it therefore is not necessary to add the particulars. South Down wool, of the best quality, is 5*l.* *p.* todd of 32 lib.:—some has fetch'd 5*l.* 5s. There is a great inclination to cross with the Merino; and I have little doubt but, in a very few years, there will scarcely be a flock without a stain of that breed. The wet weather in September prevented the growth of the turnips on the stronger soils; and, generally speaking, they are not an even crop, though they have come on lately. Labour is about two shillings a-day in winter; two and sixpence in summer.—Thrashing wheat, four to five shillings a quarter.—A carter receives 12s. or 13s. *per* week, with house rent, and an allowance for the harvest month.

Letter from a Farmer near Wakefield, 25th November.

Our harveſt commenced in a partial way about the 21ſt of Auguſt; and a ſmall portion of wheat and early oats were carried in the following weeks, which is ſound and good. But, on the 1ſt of September, the weather turned wet, and we had ſcarce a day and night without rain during the whole month. I have managed farm land for forty years, and do not recollect ever getting my corn ſo tender and unmarketable. I have known it more ſprouted, but never in ſuch bad condition for grinding. We waited day after day for more favourable weather, till our patience was quite exhauſted; and this, with the mildew, which (though not ſo general as laſt year) was in many places very fatal, makes the ſamples of wheat, as well as barley, very ordinary indeed. Much of the wheat will not grind without kiln-drying; and the barley malts very unkindly. It was ſo repeatedly wet, and half dried again, that the vegetative powers were deſtroyed. In conſequence of this, the little corn that was got, in condition, of both ſorts, fetches a very high price. Barley is a large and productive crop; but there is much of it that is only fit for Hogs and Horſes. Wheat yields better under the ſnow than laſt year; but, being both tender and unſound, great waſte is committed both in grinding and uſing. Upon the whole, I think we are in a worſe ſituation than laſt year. Beans were a good crop, and tolerably well harveſted. Oats, though not ſtrong upon the ground, are tolerably productive, and ſuffered leſs from the weather than any other grain. Our wheat ſeed-time has been pretty favourable, the ſeed being got into the ground in good order: not much remains unſown, except where turnips are cultivated. The turnip crop in this circuit is extremely good; and great abundance of latter graſs alſo. Lean ſtock of every ſort maintains high prices. Fat cattle alſo ſell well. Good beef 8*s.* per ſtone of 14 lib. ſink offal.—Mutton 7½*d.* to 8*d.* per lib. do.—Lean cattle 30 *per cent.* higher than laſt year.

State of London Markets, Monday, November 27th.

heat - -	85s. to 100s.	Fine Flour -	90s. to 95s. p. ſack.
lo. - -	94s. to 112s.	Second do. -	85s. to 90s. p do.
- -	52s. to 55s.	American do. -	60s. to 64s. p. barrel.
- - -	38s. to 54s.	Kidney Potatoes	110s. p. ton.
- -	68s. to 86s.	Champion do.	70s. to 100s. p. do.
ats - -	28s. to 34s	Ox Nobles -	65s. to 80s. p. do.
do. - -	32s. to 39s.	Hay -	100s. to 120s. p. load.
do. - -	36s. to 41s.	Straw -	40s. to 44s. p. do.
ſeans - -	40s. to 46s.	Fat Cattle	4s. to 5s. p. ſtone of 8 lib.
do. - -	49s. to 50s.	Sheep -	4s. 4d. to 5s. 6d. p. do.
- -	40s. to 48s.	Tallow -	5s. 2d. p. do.
'eas - - -	58s. to 62s.	Clover Seed (Red)	62s. to 114s. p. cwt.
do. - -	72s. to 86s.	Foreign do. -	58s. to 118s.
ll per quarter of eight Wincheſter buſhels.		White do. -	70s. to 120s.
		Trefoil - -	20s. to 50s.
		Oil Cakes, 16 guineas p. thouſand.	

Northumberland Quarterly Report.

IE fine weather we had in the latter end of July, terminated on the of that month, when wetneſs ſet in, and continued, with few interf fair, until nearly the middle of October; from thence, for about weeks, there was little rain, which allowed a conſiderable portion mmer-fallows to be ſown with wheat. The greateſt part of Noer has been wet; and, on the 17th and 18th, a violent ſtorm of g ſnow, in many places three or four feet deep, which continued e ground nearly a week. Since then we have had almoſt daily rain; taking it altogether, from the 30th July to the 30th November, bly this was the wetteſt ſeaſon that can be remembered. The quences are, that the fallows for wheat are generally in a bad ſtate, a great portion of them remain unſown. Turnips upon ſtrong , or ſoils the leaſt inclined to moiſture, are very bad: thoſe upon ertile loams are a full crop; but the bulbs have not attained that hey would have done, had the weather been warmer. On the , turnips, in this diſtrict, cannot be eſtimated at more than half a ; and, of courſe, the prices were expected to be high. Some were it 10l. an acre at the beginning of the ſeaſon; but they are now ed to 6l. and 7l., owing to the great demand for ſtock to the ward, which has been ſuch, that many people have ſold their , who uſed to turnip them through the winter. The wheat crop, h had ſo promiſing an appearance the latter end of July, has greatſappointed the hopes then entertained. On the 6th of Auguſt, flies on the ears, and yellow maggots in the bottom of the , deſtroying the germ, were firſt obſerved. Soon after this, the r fungus on the ſtraw took place, though not ſo generally as in ear preceding; and, to increaſe the calamity, the wet harveſt occad much of the grain to be ſprouted. Even thoſe crops which eſcape ruſt, when they come to be thraſhed, produce very inferior ſam- and much fewer buſhels per acre than what were expected. The iency in quantity is probably owing to the ravages of the yellow got; and the ſhrivelled ſtate of the grain to a want of ſun for bring- to perfection. Barley and oats, eſpecially upon dry ſoils, are aant crops. Peas and beans quite the contrary. Potatoes, in genere inferior in quality, and deficient in produce. The prices for fat

ſtock have remained much the ſame as ſtated in laſt report; but, from the great quantity of ſtock that has gone out of the country, an advanced price is expected to take place very ſoon, and to continue through the winter.——*30th November.*

Essex Quarterly Report.

THE obſervations made of the production of wheat this year, lead to the concluſion, that the crop of that grain is one fifth ſhort of the ordinary average; but the quality is very good, and, conſidering the uncertain weather, it was well harveſted. Barley is likewiſe rather deficient, and the quality by no means good, even where well got up, whilſt the full half is conſiderably injured by the continued rains during harveſt. Good barley is ſcarce; therefore, the malting trade is not carried on with the ſame ſpirit as laſt year. Oats are an abundant crop, and the quality in general good. Rye, about harveſt time, was conſidered injured by a blight; but it proves to be very good, with a fair production. Peas and tares are rather ſhort, few being ſown laſt year. Beans are more plentiful, but very badly harveſted. Clover ſeed is deficient, and the quality not good. Hay is ſcarce; conſequently, that which is good, fetches a high price. Potatoes have riſen plentifully, and are cheap in proportion to grain. In turnips, there are but few failures; and the openneſs of the ſeaſon hath allowed the graziers to make a reſerve of them. The plant of wheat is not very promiſing, the ſeed-time being very dry, which prevented the ſowing of it till late; that which was ſown early, has a much better appearance. Rye and winter tares look well. Stock of every deſcription is dear. — *30th November.*

Yorkshire Quarterly Report.

FROM the long continued rains during harveſt, and particularly from the hurricane of the 27th of September, much loſs and damage were experienced in the crops of almoſt every ſpecies of grain; and little of any ſort was eventually well ſecured in many places: conſequently, much appears very damp and ſoft when preſented at market; and, before next midſummer, it will be felt that the ſupply has been much affected by theſe unfavourable circumſtances. In other reſpects, moſt of the produce would have been fully as abundant as uſual, perhaps more ſo. Barley is now ſelling at all prices, from 5s. to 8s. per buſhel. Wheat, from 10s. to 15s.; Rye, 8s.; Oats, 4s. 6d.; and Beans, 9s.

The ſtate of the weather has alſo been unfavourable to the ſowing of wheat, little of which was well done, and little appears above ground, even of that which was ſown a month ſince, occaſioned by the occurrence of ſevere frozen immediately after ſowing. Some of the bean ſubſtitutes and clover leas remain over for ſpring ſowing with oats, &c. in lieu of wheat, from the bad dread of that great diſcouragement to the growth of wheat, the [illegible]. Fat and lean ſtock of all kinds are uncommonly high for the time of the year; and great prices are given for turnips: ſo ſe [illegible] at from [illegible] to [illegible] per [illegible], to be eaten on the ground with ſheep. After graſs was abundant; and good hay is about [illegible] per ton. Wool is better ſold than laſt year. Flax is lower than for ſome time paſt. The ſeeds of clover, &c. ſown laſt ſpring, have planted remarkably well. Good horſes are ſtill ſelling at very high prices; the continuance of which may in ſome degree account for the

ſcarcity of horned cattle; as many farmers have bred foals in-
alves, for ſome years paſt.

ock of malt is ſaid to be very trifling; and very little old
grain of any ſort is ſuppoſed to be on hand. Potatoes have
it one of the beſt crops ever known; and they are ſelling at a
price. Beſt beef, mutton, veal, and pork, are about 8d per
tter, 7s. 6d.; common cheeſe, 9d. per lib. avoirdupois weight.
can hogs, of all ſorts, are extremely dear.

Notice concerning Merino Sheep.

erſons who poſſeſs ewes of the pure Merino race, and are de-
increaſing their flock, are requeſted to apply to SIR JOSEPH
who has received the King's commands to diſtribute a conſider-
, newly imported from Spain, among ſuch perſons as are moſt
preſerve them free from all admixture, and to improve their
judiciouſly matching them in breeding; giving a due preference
who have manifeſted their approbation of this kind of ſtock, by
ready provided themſelves with the breed, but who have not
ned a ſufficient increaſe to be able to ſupply the wants of their
rs who wiſh to improve their Britiſh wools by the uſe of this
roſs.

s addreſſed to Sir JOSEPH BANKS, Soho-Square, London, will
ttended to. He requeſts to be correctly informed of the ac-
ber of pure Merino ewes, ewe teggs, and ewe lambs, each ap-
now in poſſeſſion of, and of the ſource from whence the breed
nally procured.

OSEPH BANKS will be thankful to gentlemen who will inform
was the average weight of their pure Merino fleeces of the
1808 and 1809, and what price per pound they were ſold for,
name of the purchaſer.

POSTSCRIPT TO FIRST BRANCH.

QUERIES.

HER is it moſt advantageous, on entering to a farm quite
nd dirty, to make at once a great exertion to improve it, or
s gradually, eating the natural growth of the unimproved
h ſheep? And, whether would this ſcheme of gradual im-
nt be moſt ſuited to land adapted to the turnip huſbandry,
ay farm?

th be ſuppoſed capable of carrying *plenty of natural graſs*,
lime can be obtained at 4s. 6d. per boll, barley meaſure,
and every other expenſe included.

OBITUARY.

lowing article, for this branch, has been ſent us from Fife-
and we have inſerted it without the ſlightest alteration, ex-
me of a verbal kind, truſting that the author has given a
account of his deceaſed friend.]

THE CONDUCTOR OF THE FARMER'S MAGAZINE.

WHEN we examine the periodical liſts of fame, we often find
rolled there, and celebrated as great, for no other reaſon,

that one can conceive, than that they do, or have done, great mischief; while, when we look through mankind, we see characters of real intrinsic worth, whose benevolent and humane dispositions diffuse happiness all around them; honoured, indeed, and beloved by their friends and dependants, but making their final exit without one mark of public approbation. The FARMER'S MAGAZINE is certainly exempt from the above charge, as a page has now and then been most judiciously devoted to honour the memory of some characters, which, although they may not have shone among the din of arms, have conducted the plough through the stubborn soil—driven the opposing drain through the stagnating marsh—and covered the barren heath with luxuriant crops of yellow grain. Encouraged by these examples, I herewith send you a few observations on the character of the late Mr ALEXANDER HENDERSON, farmer at Methel Hill.

Mr HENDERSON, who died at Methel Hill on the 13th of August, was in perfectly good health the night before his death; and, by five next morning, was carried off by a fit of apoplexy. Humanity cannot refrain from dropping a tear over the memory of this good man, who was placed in easy and affluent circumstances of life, and lately married to a lady of the most respectable character and connexions. Farming extensively under an indulgent landlord, who but last year lengthened his lease to twenty-one years on advantageous terms; and, carrying on his improvements with spirit and enterprize, every thing apparently bade fair for prosperity and length of days—when, lo, in one moment, every fond hope was laid prostrate in the dust.

Mr HENDERSON'S mental powers were certainly not above mediocrity; and, from his taciturnity in company, some people were disposed to rank them below that mark: the fact rather was, that Mr HENDERSON had not that facility in communicating his ideas that is peculiar to some men; but, that his ideas were perfectly correct on agricultural matters, the extensive, beautifully cultivated fields of Methel Hill sufficiently prove. The prominent features of his character as a farmer, was patience and perseverance, under the most difficult, laborious and expensive undertakings; and these qualities of mind were exhibited in the vast sums he expended in accommodating himself with an extensive and elegant steading; in levelling, draining, and liberal application of manures, of which his situation gave him an uncommon command. But every effort of his understanding, whether applied to agriculture or any other subject, was far surpassed by the benevolent dispositions of his heart;—and here, indeed, did the intrinsic value of his character consist. Situated as he was in the midst of a populous neighbourhood, every day presented opportunities for the gratification of these generous dispositions; nor did he let these opportunities slip—for no man in his situation and circumstances has been known in this place of the country to give away with a more liberal hand than Mr HENDERSON did: Numbers were almost wholly dependent on his bounty; and numbers more, experienced his assistance in the trying time of need. When winter's stormy blast drove with unrelenting fury, and carried cold and starvation into the bleak abodes of poverty, his horses and

arts were ever ready to drive fuel for the relief of the indigent; nd, in times of dearth and scarcity, his barns and granaries were pened liberally for the relief of man and beast. If any error atched to this part of Mr HENDERSON's character, it was this, that e did not in every instance make a proper selection of the objects of is charity; but here his very failings leaned to the side of virtue: nd although, in some cases, his goodness might be misapplied, in any more it relieved the real needy, and eased or removed that dditional portion of distress which poverty but too often adds to ne sum of human misery. These facts were strongly corroborated, nd expressed in more pointed and emphatic language than can be one by the writer's pen, in the lamentations, the tears and melanholy looks of a vast train of his dependants, who followed his reains to the grave. In fact, it may be justly said of him, that he lived beloved, and died regretted;' for in him was united both the ill and the power to do good: and the pleasure he must have felt om supplying the wants of others—from relieving distress, and difusing happiness amongst so many of his fellow creatures, cannot easiy be described; and can only be enjoyed by souls endowed with the ame godlike dispositions.

The above is a just description of the most striking features of Mr ENDERSON's character;—a character which cannot be deemed unorthy of notice, as it holds out an example of benevolence and geneosity worthy of imitation; and, to every person in like circumstanes, says, in the most energetic language, *Go, and do likewise.*

NOTICES TO CORRESPONDENTS.

The letter from our worthy friend GEORGE DEMPSTER Esq., with is *Essay on Sheep Farming in the Highlands of Scotland*, will, without fail, be presented to our readers in next Number; as also the letter of R. N. S. concerning the paying of rent in grain.

We are extremely sorry that the *President's Report to the Working-on Agricultural Society*, did not reach us till this Number was at press; but we will endeavour to make ample use of it in our next publication.

An Account of a New Method of Planting Hedges, is received, which he CONDUCTOR thinks well of. Various papers respecting the expense of making Enclosures, are also received.

We regret that the Quarterly Reports from Wales, Lancashire, Cumberland, Mid-Lothian, Fife, Moray, and Inverness, with our London Letter, came too late to hand for insertion, especially as they contain much valuable intelligence.

No. XLI. will be published on Monday, 12th March.

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